ORDER No. ACE00042312

Service Manual

AUTOMOTIVE CONSUMER ELECTRONICS

MiniDisc

CQ-MR505N / CQ-MR303N

High-Power MD Player / RDS Receiver with Changer Control

SPECIFICATIONS

Specifications*

General	
Power Supply	**DC 12V (11V - 16V)** **Test Voltage 14.4V** **Negative Ground**
Current Consumption	**Less than 2.5A** **(MD mode, 0.5W 4-speaker)**
Maximum Power Output	
<CQ-MR505N>	**45W × 4ch (at 4 Ω)**
<CQ-MR303N>	**40W × 4ch (at 4 Ω)**
Power Output	
<CQ-MR505N>	**22W×4ch (DIN45 324, at 4 Ω)**
<CQ-MR303N>	**20W×4ch (DIN45 324, at 4 Ω)**
Speaker Impedance	**4 - 8 Ω**
Pre-Amp Output Voltage	**2 V**
Pre-Amp Output Impedance	**600 Ω**
Sub-Woofer Output Voltage	
<Only for CQ-MR505N>	**2 V**
Tone Controls	**Bass ; ±12 dB at 100Hz** **Treble ; ±12 dB at 10kHz**
LW Radio	
Frequency Range	**153 - 279kHz**
Usable Sensitivity	**32 dB/ μ V (S/N 20 dB)**
MW Radio	
Frequency Range	**530 - 1,602kHz**
Usable Sensitivity	**28 dB/ μ V (S/N 20 dB)**
FM Stereo Radio	
Frequency Range	**87.5 - 108.0MHz**
Usable Sensitivity	**6 dB/ μ V (S/N 30 dB)**
Stereo Separation	**35 dB (at 1kHz)**
MD Player	
Channel	**2 channels**
D/A Conversion	**16-bit Linear**
Frequency Response	**5Hz to 20,000Hz**
Signal to Noise Ratio	**90 dB (1 kHz)**
Wow and Flutter	**Below measurable limits**
Dimensions(W×H×D)**	**178 × 50 × 150 (mm)**
Weight**	**1.4kg**

*** Specifications and the design are subject to possible modification without notice due to improvements.**

**** Dimensions and Weight shown are approximate.**

● **Above specifications comply with EIA standards**

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

1. FEATUERS

- PLL (Phase Locked Loop) synthesized tuning.
- 18-FM, 6-AM presets with preset scan.
- RDS (Radio Data System)
- CD Changer control function.
- Sub-Woofer Output [CQ-MR505N]
- Removable face plate security.

2. REPLACING THE FUSE

Use fuses of the same specified rating (15amps). Using different substitutes or fuses with higher ratings, or connecting the unit directly without a fuse, could cause fire or damage to the stereo unit.

3. MAINTENANCE

Your product is designed and manufactured to ensure a minimum of maintenance. Use a soft cloth for routine exterior cleaning. Never use benzine, thinner or other solvents.

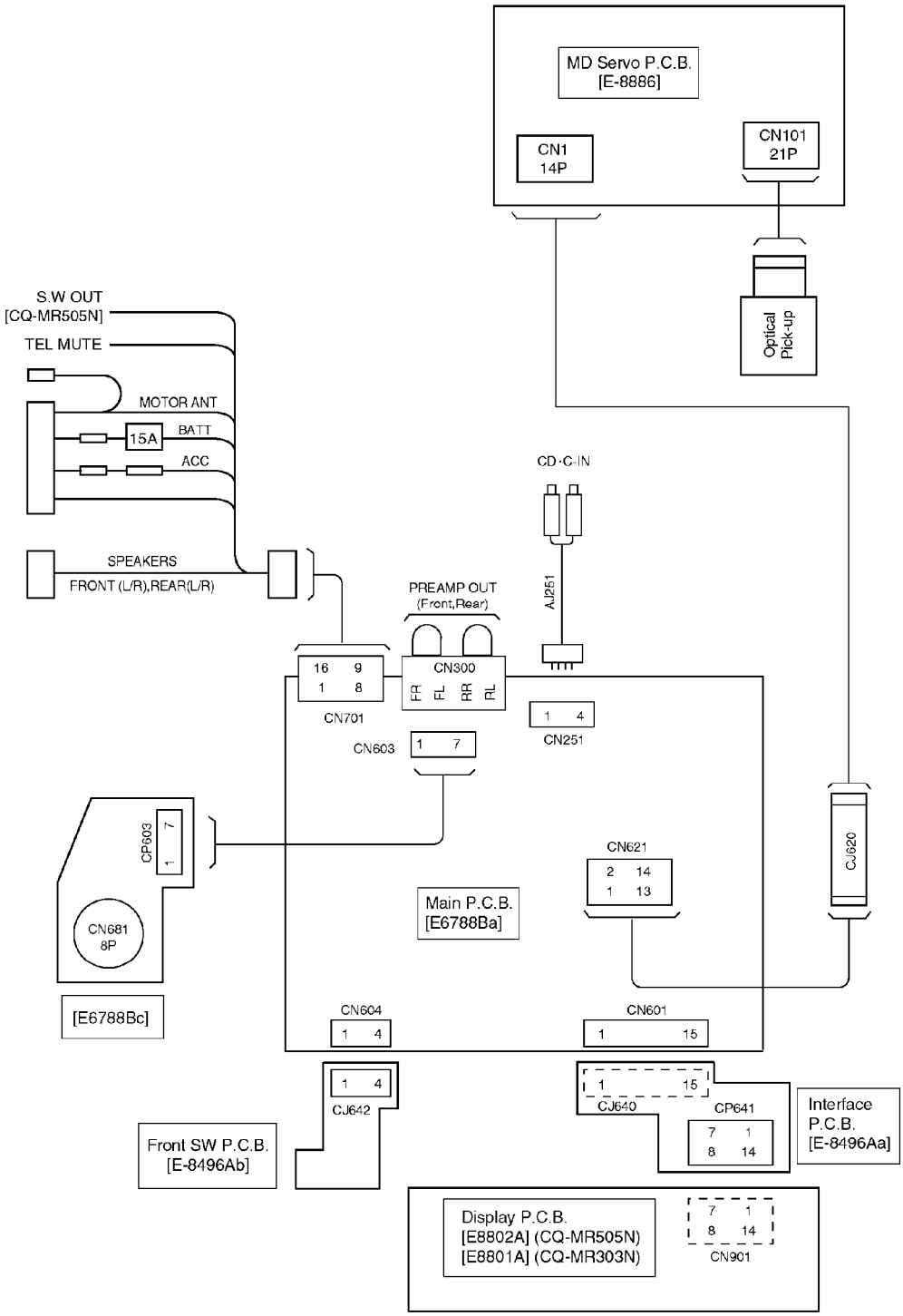
4. RADIO AND MD DECK ALIGNMENT

● RADIO BLOCK / Do not align the AM and FM package blocks. When the package block is necessary, it will be supplied already aligned at the factory. / ● MD DECK BLOCK / This model has no servo alignment points because microcomputer controls the servo circuit. /

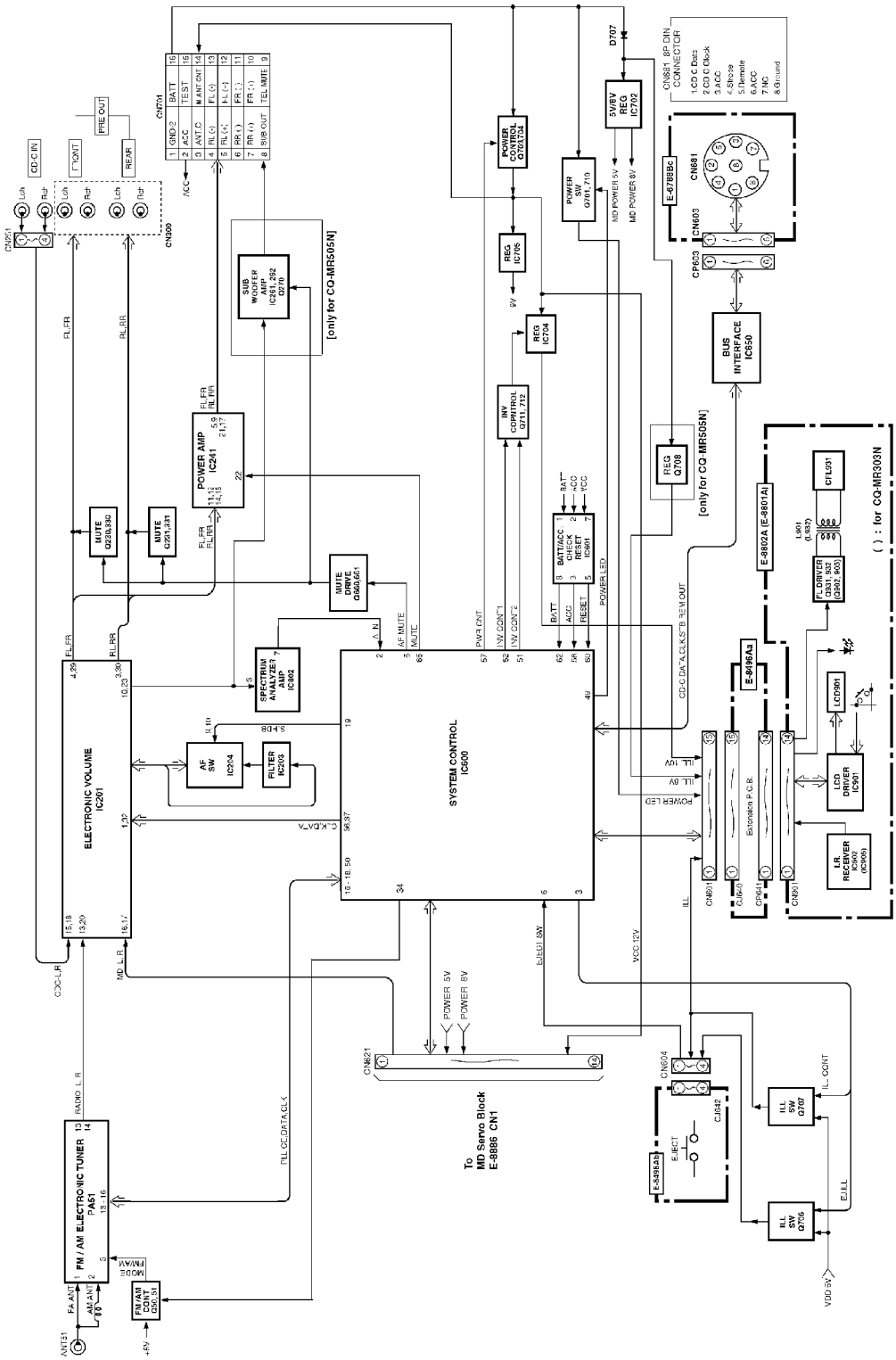
5. DIMENSIONS

6. OPERATING INSTRUCTIONS

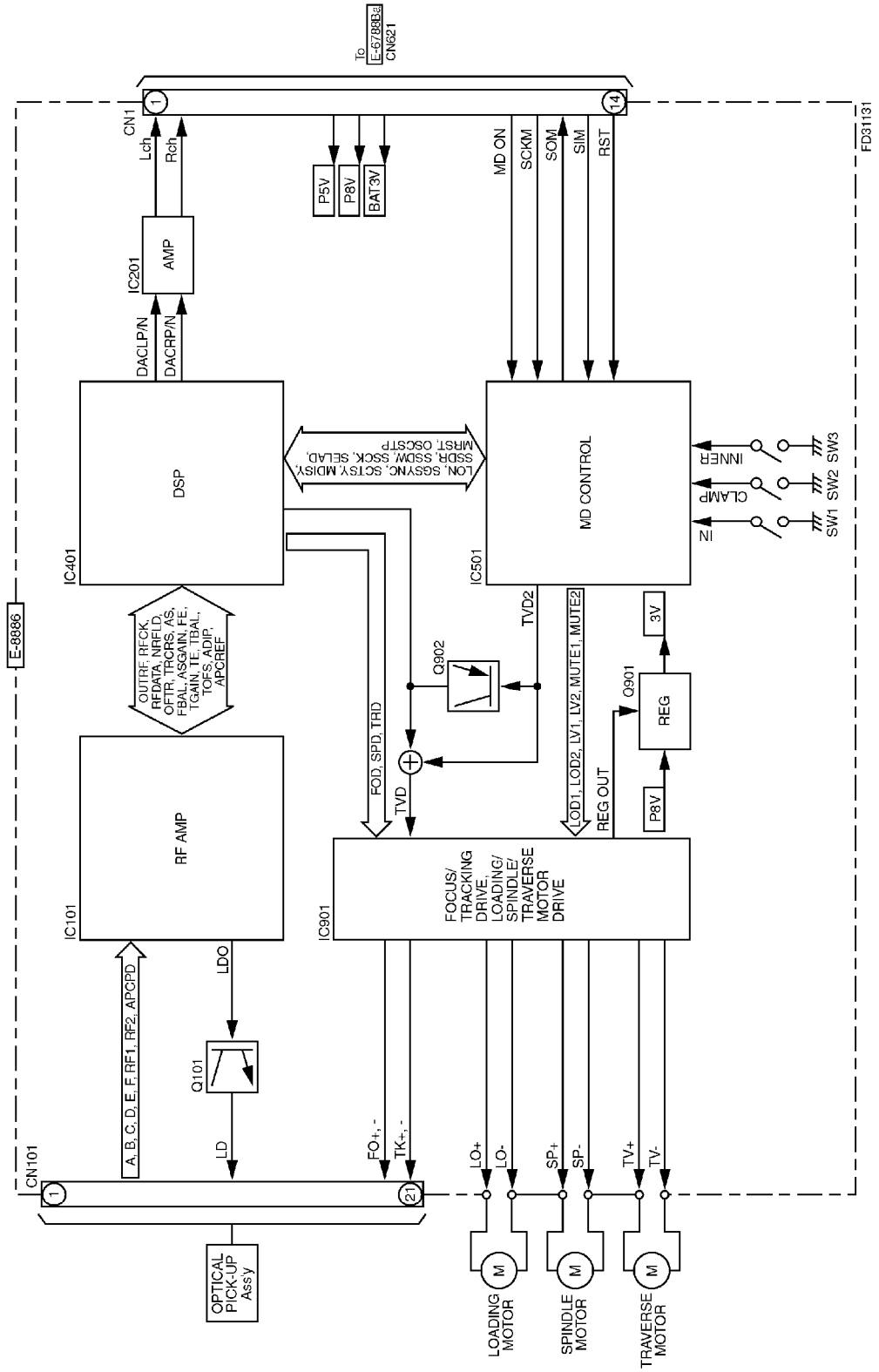
7. WIRING CONNECTION



8. BLOCK DIAGRAM -1 (Main Unit)



9. BLOCK DIAGRAM -2 (MD Deck)



10. TERMINALS DESCRIPTION

10.1. Main Block

IC600 : C2CBJG000065

Pin No.	Name	Description	I/O	(V)
1	INIT C	Initial C	I	0
2	A-IN	Spectrum analyzer data	I	0
3	EJECT	Eject SW input	I	4.7
4	AVss	Analog ground	-	0
5	AF MUTE	AF mute	O	0
6	N.C.	No connection	-	-
7	AVREF	Reference voltage	-	4.8
8	MD SO (MI)	MD data input	I	4.7
9	MD SI (MO)	MD data output	O	4.9
10	MD SCK	MD clock	O	4.7
11	CD.C DATA	CD changer data	I	0
12	N.C.	No connection	-	-
13	CD.C CLK	CD changer clock	I	0
14	REM OUT	CD changer remote control	O	4.6
15	BZ OUT	Buzzer sound output	O	0
16	PLL DATA (MI)	Data from PLL	I	5.1
17	PLL DATA (MO)	Data for PLL	O	0
18	PLL CLK	Clock for PLL	O	4.8
19	S.HDB	Super High Definition Bass on/off	O	4.8
20	MD RESET	MD deck reset	O	0
21	N.C.	No connection	-	-
22	N.C.	No connection	-	-
23	N.C.	No connection	-	-
24	N.C.	No connection	-	-
25	N.C.	No connection	-	-
26	MD ON	MD on signal	O	4.8
27	N.C.	No connection	-	-
28	N.C.	No connection	-	-
29	N.C.	No connection	-	-
30	N.C.	No connection	-	-
31	N.C.	No connection	-	-
32	N.C.	No connection	-	-
33	VSS	Ground	-	0
34	FM/AM	FM/AM control	O	0
35	IF SEL	Not Used	I	4.7

39	IP SEL	Not Used	1	4.7

36	IC2-CLK	Electronic volume clock	O	4.6
37	IC2-DATA	Electronic volume data	I/O	5.2
38	LED	Warming alarm LED control	O	5.2
39	EJ ILL	Eject illumination control	O	0
40	/ST	Stereo signal input	I	4.9
41	LCD-DI	LCD data input	O	0
42	LCD-DO	LCD data output	I	4.5
43	LCD-CLK	LCD clock	O	0
44	LCD-CE	LCD chip enable output	O	0
45	STBY	Standby signal output	O	0
46	SUB.W DATA	Sub-woofer data	O	0
47	SUB.W CLK	Sub-woofer clock	O	0
48	NC	No connection	-	-
49	POWER LED	Power LED control	O	4.8
50	PLL CE	PLL controller chip enable	O	0
51	INV CONT2	Invertor control	O	0
52	INV CONT1	Invertor control	O	0
53	DECK CONT	Deck power control	O	5.0
54	NC	No connection	-	-
55	FP OPN/ CLS	Front panel open/close	I	5.1
56	ILL CONT	Illumi. control	O	4.8
57	PWR CNT	Power control	O	4.8
58	ACC	ACC detection	I	4.4
59	RDS DATA	RDS data	I	2.9
60	/RESET	Reset input	I	4.4
61	REM	Remocon data input	I	4.1
62	BATT	Battery detection	I	4.3
63	RDS CLK	.RDS clock	I	4.9
64	CD.C.STB	CD changer strobe input	I	0
65	MUTE	Mute control	O	0
66	N.C.	No connection	-	-
67	VSS	Ground	-	0
68	VDD	+5V power supply	-	4.8
69	MAIN X2	Crystal oscillator (Main)	-	2.8
70	MAIN X1	Crystal oscillator (Main)	-	1.9
71	VSS	Ground	-	0
72	SUB X2	Crystal oscillator (Sub)	-	2.8
73	SUB X1	Crystal oscillator (Sub)	-	1.9

74	AVDD	+5V power supply	-	4.8
75	AVREF	(Connecting to VDD)	-	4.8
76	TEL MUTE	Telephone mute control	O	0
77	PANEL	Panel detect	I	0
78	SD	B/S detection	I	0.4
79	INIT A	Initial value A	I	(#1)
80	INIT B	Initial value B	I	5.0

Note (#1) :

CQ-MR505N (0 V), CQ-MR303N (5.0V)

10.2. Display Block

IC901 : YEAMPD32B015 [for CQ-MR505N]

Pin No.	Name	Description	I / O	(V)
1 - 4	LED1 - 4 (NC)	-	-	-
5	VSS	(Connecting to Ground)	-	0
6	VLC5	LCD Control Voltage 5	I	0
7	VLC4	LCD Control Voltage 4	I	1.8
8	VLC3	LCD Control Voltage 3	I	3.5
9	VLC2	LCD Control Voltage 2	I	3.5
10	VLC1	LCD Control Voltage 1	I	5
11	VLC0	LCD Drive Voltage	I	7
12	VDD	(Connecting to +5V)	-	5
13	SYNC	Syncronize Input	-	5
14	LCD OFF	LCD Control (LCD Off)	I	5
15	RESET	Reset	I	5
16	DEY REQ	Key Request Output	O	0
17	SCK	Shift Control Clock Input	I	4.8
18	DATA	Data In/Out	I/O	1.3
19	STB	Strobe Input	I	1
20	OSC IN	Oscillator Input	I	2.6
21	OSC OUT	Oscillator Output	O	2.8
22 - 25	KEY1 - 4	Key Scan Input	I	5
26 - 33	SEG1/ KS1 - SEG8/KS8	Segment/Key Scan Output	O	3.5

Pin No.	Name	Description	I / O	(V)
34 - 85	SEG9 - 60	Segment Output	O	3.5
86 - 92	SEG61 - 65 (NC)	-	-	-
93 - 100	COM7 - 0	Common 7 - 0	O	3.5

IC901 : YEAMLC75884W [for CQ-MR303N]

Pin No.	Name	Description	I/O	(V)
1-51	S3 ~ 53	LCD segment data	O	2.5
52-55	COM1-4	LCD common	O	2.5
56,57	S54,55	LCD segment data	O	2.5
58-61	KS3-6	Key strobe	O	0.9
62-66	KI1-5	Key data	I	0
67	VDD	+5V power supply	-	5.1
68	VLCD	+5V power supply	-	5.1
69	VLCD1	LCD angle	-	3.3
70	VLCD2	LCD angle	-	1.7
71	VSS	Ground	-	0
72	TEST	(Connecting to ground)	-	0
73	OSC	Oscillator terminal	-	3.9
74	/RESET	(Connecting to VCC)	-	5.1
75	DO	Key data output	O	4.1
76	CE	LCD driver chip enable	I	0
77	CLK	LCD clock	I	0
78	DI	LCD data	I	0
79	S1	LCD segment data	O	2.5
80	S2	LCD segment data	O	2.5

10.3. MD Servo Block

IC401 : MN66619REUC

Pin No.	Name	Description	I/O	(V)
1	ADIP	ADIP signal input	I	1.7
2	FE	Focus error signal	I	1.7
3	TE	Tracking error signal	I	1.7
4	AS	Common use (AS and 3TMON)	I	2.2
5	ATEST	A/D converter input	I	0
6	AMONI (NC)	Servo analog monitor	-	-
7	VREFI	ADC input/DAC reference	I	1.7
8	TOFS	Tracking offset adjust output	O	1.7
9	FBAL	Focus balance adjust output	O	1.7
10	TBAL	Tracking balance adjust output	O	1.7
11	TGAIN	Tracking error gain adjust output	O	1.4
12	ASGAIN	AS gain adjust output	O	1.7
13	APCREF	Laser power setup	O	1.7
14	AVDD1	Analog power supply	-	3.3
15	AVSS1	Analog GND	-	0
16	FOD	Focus drive signal	O	1.7
17	TRD	Tracking drive signal	O	1.7
18	TVD	Traverse drive signal	O	1.7
19	SPD	Spindle drive signal	O	1.7
20	AVDD2	Analog power supply	-	3.3
21	DACLN	Audio (PWM output Lch -)	O	1.7
22	DACLP	Audio (PWM output Lch +)	O	1.7
23	DACRN	Audio (PWM output Rch -)	O	1.7
24	DACRP	Audio (PWM output Rch +)	O	1.7
25	AVSS2	Analog GND	-	0
26	SPON (NC)	-	-	-
27	TVON (NC)	-	-	-
28	FG	FG input	I	0
29	DVSS0	Digital GND	-	0
30	DVDD0	Digital power supply	-	2.6
31	RVDD33	2.5V regulator input	-	3.3
32	RVDD25	2.5V regulator output	-	2.6
33	LON	2.5V regulator ON signal	I	3.3
34	RVSS	2.5V regulator GND		0

Pin No.	Name	Description	I/O	(V)
35	ZERODET (NC)	-	-	-
36	MONI0	Monitor output 0	O	0
37	MONI1	Monitor output 1	O	3.3
38	MONI2	Monitor output 2	O	3.3
39	MONI3	Monitor output 3	O	3.3
40	IVDD0	IO pad power	-	3.3
41	NRST	Reset	I	3.3
42	SELAD	Address data select (CPU IF)	I	0
43	SSCK	Shift clock (CPU IF)	I	3.3
44	SSDW	Write data (CPU IF)	I	0
45	SSDR	Read data (CPU IF)	O	1.3
46	MDISY	Interrupt 1 (MD sync)	O	0
47	SCTSY	Interrupt 2 (SUBQ sync/ADIP sync)	O	0
48	SGSYNC	ATRAC frame sync signal	O	0.3
49	OSCSTP	Osc stop signal	I	0
50	TX (NC)	-	-	-
51	RVSS0	DRAM GND	-	0
52	RVDD0	DRAM power supply	-	2.6
53	TEST3	Test terminal 3	I	0
54	TEST2 (NC)	-	-	-
55	TEST1 (NC)	-	-	-
56	TEST0 (NC)	-	-	-
57	SEL1	Select 1	I	0
58	SEL0	Select 0	I	0
59	TS3	(Connecting to ground)	I	0
60	TS2	(Connecting to ground)	I	0
61	TS1	(Connecting to ground)	I	0
62	RVSS1	DRAM GND	-	0
63	RVDD1	DRAM power supply	-	2.6
64	XI	Crystal input	I	1.5
65	IVSS	IO pad ground	-	0
66	X0	Crystal output	O	1.7
67	IVDD1	IO pad power supply	-	3.3
68	RFDATA	RFIC serial data	O	1.4
69	RFCK	RFIC serial clock	O	2.1
70	NRFLD	RFIC serial load	O	3.1
71	TRCRS	Common terminal (TRCRS and BDO)	I	1.6

Pin No.	Name	Description	I/O	(V)
72	OFTR	Common terminal (OFTR and NRFDET)	I	2.1
73	DVDD1	Digital power supply	-	2.6
74	REFM1	EFM loop filter terminal	O	1.7
75	EFMIREF	EFM PLL reference current setup	I	1.6
76	PEFMS	EFM signal input	I	1.7
77	EFMPLLF	EFM PLL filter terminal	O	2
78	AVDD0	Analog power supply	-	3.3
79	AVSS0	Analog GND	-	0
80	FSEL (NC)	-	-	-

IC501 : MN101C28LAB

Pin No.	Name	Description	I/O	(V)
1	VREF (-)	GND	-	0
2	PA 0	GND	I	0
3	PA 1	GND	I	0
4	PA 2	GND	I	0
5	PA 3	GND	I	0
6	PA 4	GND	I	0
7	PA 5	GND	I	0
8	PA 6	GND	I	0
9	PA 7	GND	I	0
10	VREF (+)	3.3V power supply	-	3.3
11	VDD	3.3V power supply	-	3.3
12	OSC2	Crystal 7.37MHz	O	1.7
13	OSC1	Crystal 7.37MHz	I	1.6
14	VSS	GND	-	0
15	XI	GND	I	0
16	XO (NC)	-	-	-
17	MMOD	GND	I	0
18	SOM	Serial data output (panel communication)	O	3.2
19	SIM	Serial data input (panel communication)	I	1.2
20	SCKM	Serial clock (panel communication)	I	3.3
21	SSDW	DSP data write	O	0.5
22	SSDR	DSP data read	I	2.0
23	SSCK	DSP data write clock	O	3.3
24	SELAD	DSP data/address signal	O	0
25	NRST	Reset	I	3.3

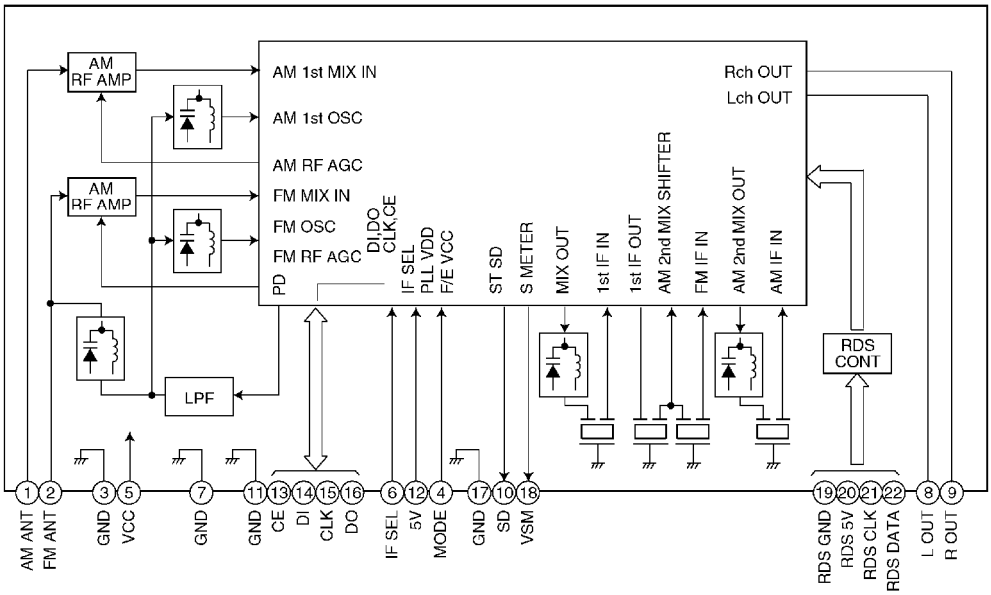
Pin No.	Name	Description	I/O	(V)
26	(NC)	-	-	-
27	TM1MSO	Timer output (1msec)	O	1.7
28	SCKM	Serial clock	I	3.3
29	(NC)	-	-	1.7
30	TM1MSI	Timer input (1msec)	I	0
31	MDISY	Sector sync signal	I	0
32	SCTSY	SUBQ/ADIP sync signal	I	3.0
33	MDON	System on/off	I	0.3
34	SGSYNC	ATRAC frame sync signal	I	0
35	IRQ4/P24	(Not used)	I	3.3
36	(NC)	-	-	-
37	(NC)	-	-	-
38	(NC)	-	-	-
39	(NC)	-	-	-
40	(NC)	-	-	-
41	(NC)	-	-	-
42	VDD2	3.3V power supply	-	3.3
43	VPP	3.3V power supply	-	3.3
44	(NC)	-	-	-
45	(NC)	-	-	-
46	(NC)	-	-	-
47	(NC)	-	-	-
48	(NC)	-	-	-
49	(NC)	-	-	-
50	(NC)	-	-	-
51	(NC)	-	-	-
52	OSCSTOP	DSP Osc stop	O	0
53	PRST	DSP reset	O	3.3
54	TVD2	Traverse control (as DSP off)	I/O	1.7
55	PC1	Driver power control (L: Loading mute)	O	3.3
56	LOD1	Loading motor control 1	O	0
57	LOD2	Loading motor control 2	O	0
58	PC2	Driver power control (L: Actuator mute)	O	3.3
59	INNER	Inner SW	I	3.3
60	INNER	Disc eject detectioin	I	0
61	CLAMP	Clamp SW	I	0
62	LV1	Loading voltage control 1	O	0
63	LV2	Loading voltage control 2	O	0
64	LON	2.5V regulator control	O	0
65	(NC)	-	-	-
66	(NC)	-	-	-

Pin No.	Name	Description	I/O	(V)
67	(NC)	-	-	-
68	(NC)	-	-	-
69	(NC)	-	-	-
70	(NC)	-	-	-
71	(NC)	-	-	-
72	(NC)	-	-	-
73	(NC)	-	-	-
74	(NC)	-	-	-
75	(NC)	-	-	-
76	(NC)	-	-	-
77	(NC)	-	-	-
78	(NC)	-	-	-
79	(NC)	-	-	-
80	GND	(Not used)	-	-

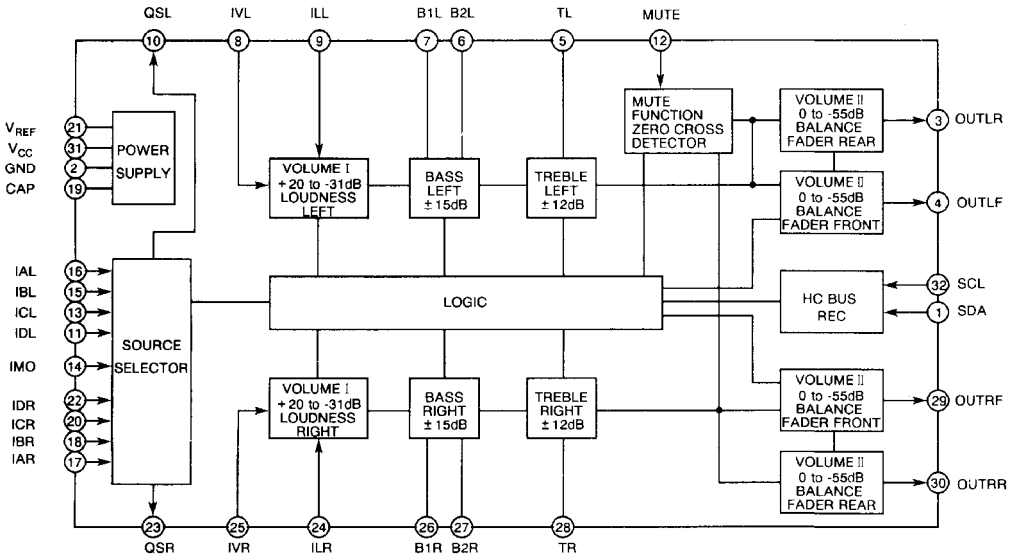
11. PACKAGE AND IC BLOCK DIAGRAM

11.1. Main Block

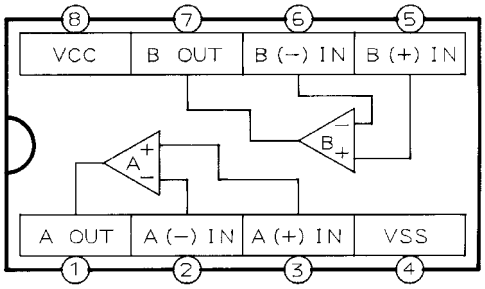
PA51 : C5BA00000053



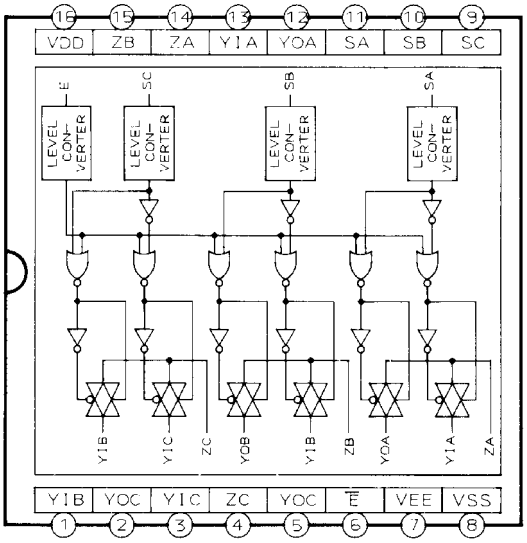
IC201 : YEAMEA6320TT



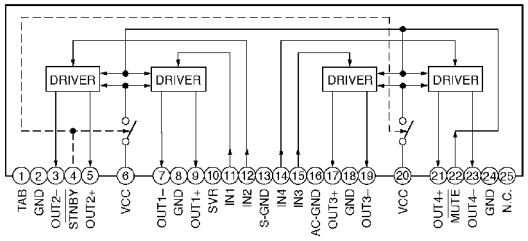
IC203, 261, 802 : YEAMM5218AFE



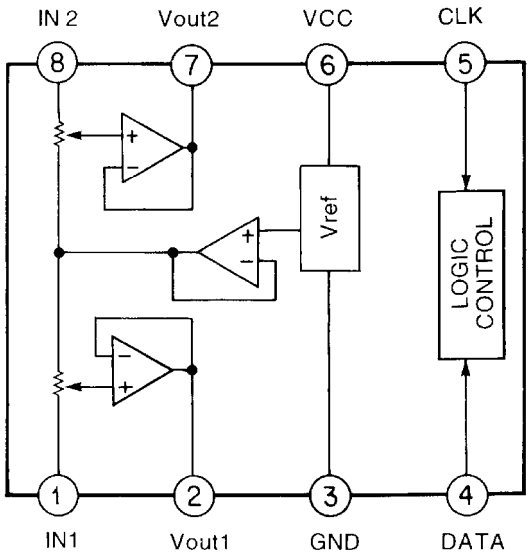
IC204 : YEAMPD4053E2



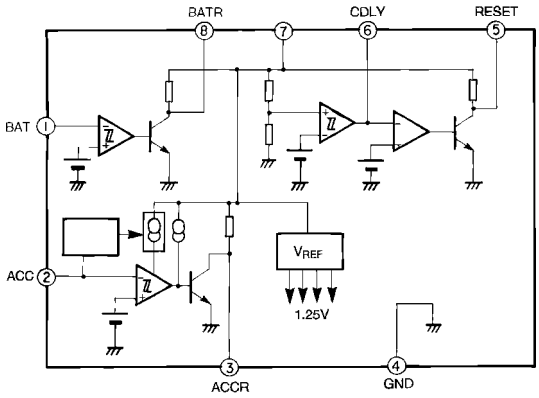
IC241 : C1EA00000021 [CQ-MR505N] / IC241 : YEAMTDA7384 [CQ-MR303N]



IC262 : YEAMM62429FP



IC601 : AN8065SE1



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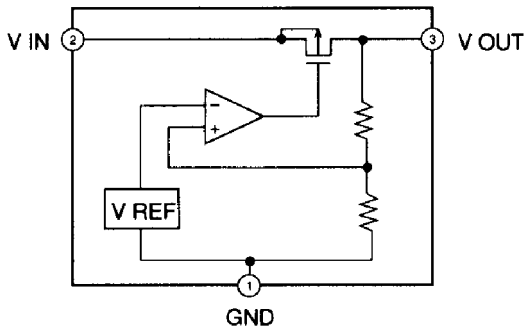
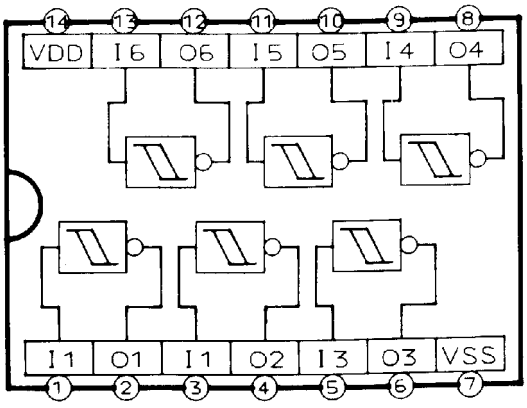
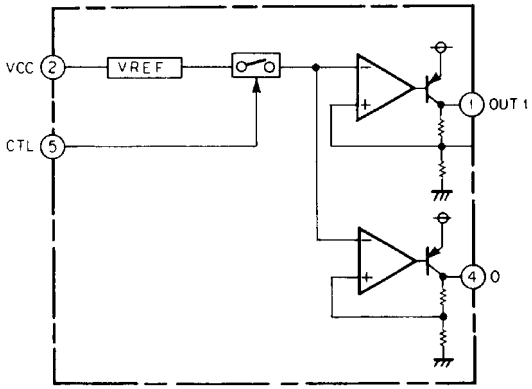


IC650 : YEAMC14584BE

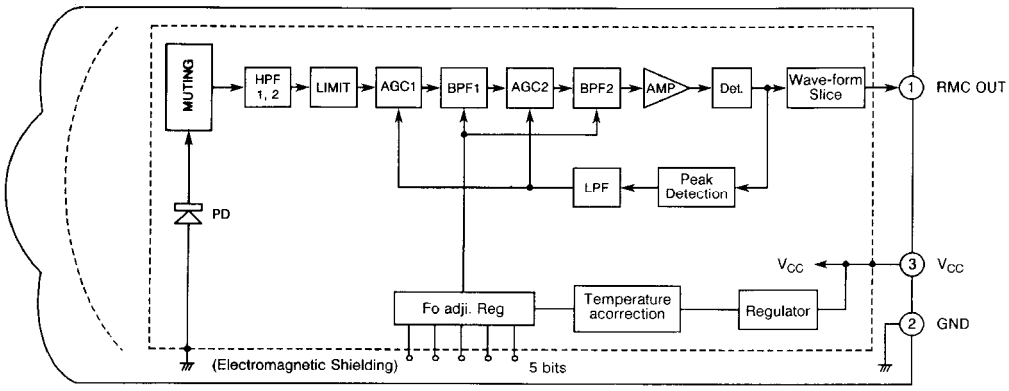


IC702 : YEAMA41W12ST



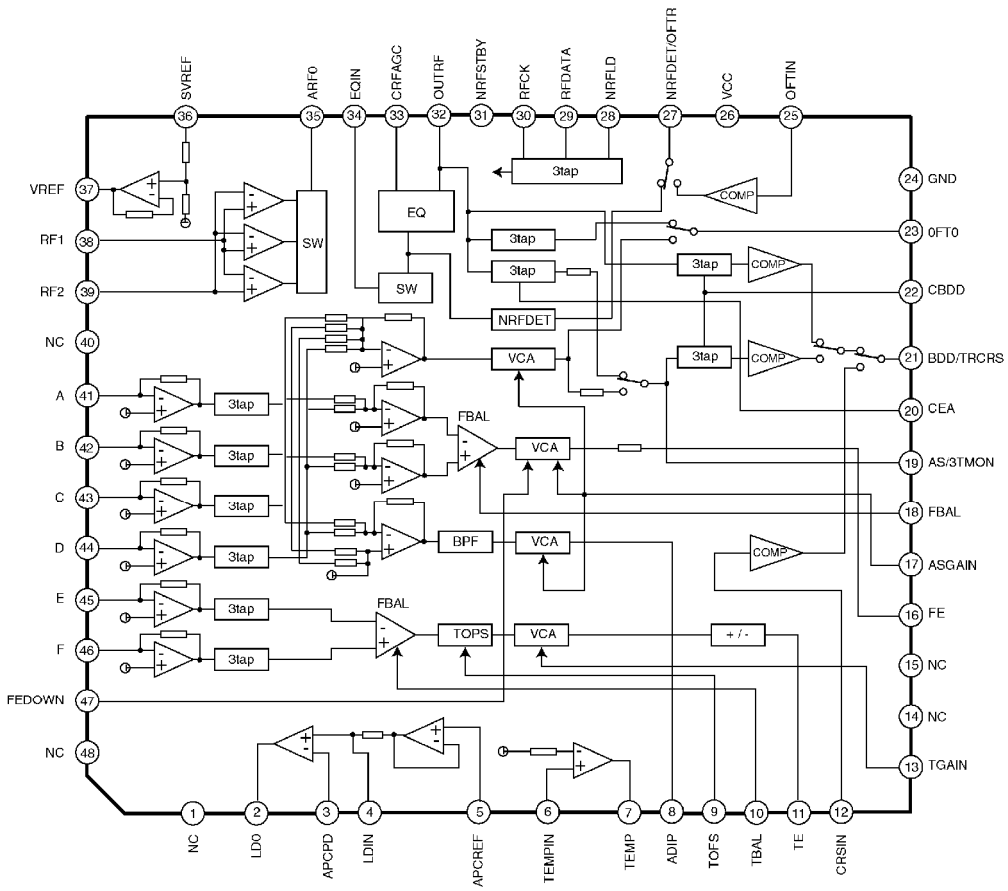
11.2. Display Block

IC902 : YEAMSBX8035F [CQ-MR505N] / IC905 : YEAMSBX8035F [CQ-MR303N]



11.3. MD Servo Block

IC101 : AN8774FHQ



12. REPLACEMENT PARTS LIST

Notes :

1. **Be sure to make your orders of replacement parts according to this list.**
2. **Important safety notice: Components, identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.**
3. **Location keys in the remarks column indicates the general location of the parts shown in the exploded drawing, as in a road map.**
4. **The marking (RTL) indicates that Retention Time is limited for this item. After the discontinuation of assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will**

no longer be available.

5. This Replacement Parts List is composed as follows. / See the requirement model's parts list.

- Replacement Parts List [CQ-MR505N]
- Replacement Parts List [CQ-MR303N]
- Accessories and Mechanical Parts [CQ-MR505N/303N]

12.1. Replacement Parts List / [CQ-MR505N]

Ref. No.	Part No.	Part Name & Description	Remarks
ICs AND TRANSISTORS			
MAIN / CONNECTOR BLOCK [E-6788B]			
IC201	YEAMEA6320TT	IC	
IC203	YEAMM5218AFE	IC	
IC204	YEAMPD4053E2	IC	
IC241	C1EA00000021	IC	
IC261	YEAMM5218AFE	IC	
IC262	YEAMM62429FP	IC	
IC600	C2CBJG000065	IC	
IC601	AN8065SE1	IC	
IC602	C0CAABC00002	IC	
IC650	YEAMC14584BE	IC	
IC702	YEAMA41W12ST	IC	
IC704	C0CBAEG00003	IC	
IC802	YEAMM5218AFE	IC	
PA51	C5BA00000053	IC	
Q50	YEANFP1F3PT1	Transistor	
Q51	B1GBCFNN0005	Transistor	
Q230	YEANC323TUTX	Transistor	
Q231	YEANC323TUTX	Transistor	
Q270	YEANC323TUTX	Transistor	
Q330	YEANC323TUTX	Transistor	
Q331	YEANC323TUTX	Transistor	
Q601	B1GBCFNN0005	Transistor	
Q602	B1GBCFNN0005	Transistor	
Q660	YEANA114EKTX	Transistor	
Q661	YEANA114EKTX	Transistor	
Q663	YEANA114EKTX	Transistor	
Q664	B1GBCFNN0005	Transistor	
Q701	YEAND1859T	Transistor	
Q703	YEANB1243QRT	Transistor	
Q704	B1GBCFJN0005	Transistor	
Q705	2SD2139TA	Transistor	
Q706	YEANA114EKTX	Transistor	
Q707	YEANA114EKTX	Transistor	
Q708	2SD1994ATA	Transistor	
Q710	YEAND1859T	Transistor	
Q711	B1GBCFNN0005	Transistor	
Q712	B1GBCFNN0005	Transistor	

Ref. No.	Part No.	Part Name & Description	Remarks
DISPLAY BLOCK [E-8802A]			
IC901	YEAMPD32B015	IC	
IC902	YEAMSBX8035F	IC	
Q931	YEANSSTA06T	Transistor	
Q932	YEANSSTA06T	Transistor	
DIODES			
MAIN / CONNECTOR BLOCK [E-6788B]			
D50	YEADRD51MBT1	Diode	
D201	MA165TA	Diode	
D602	LN25RP	LED	
D701	YEADSR1544TL	Diode	
D702	MA165TA	Diode	
D703	B0BA5R700006	Diode	
D707	YEADRB100AT	Diode	
D708	YEADRD91M1T2	Diode	
D709	MA153TX	Diode	
D710	YEADRD27M2T1	Diode	
D712	MA150TA	Diode	
D715	YEADDAM3MA47	Diode	
D717	MA721TX	Diode	
D720	YEADRD51MBT1	Diode	
D803	MA165TA	Diode	
D804	YEADRD51MBT1	Diode	
DISPLAY BLOCK [E-8802A]			
D901	MA8056LMHTX	Diode	
D902	MA8056LMHTX	Diode	
D903	MA8056LMHTX	Diode	
D904	MA8056LMHTX	Diode	
D905	MA8056LMHTX	Diode	
D906	YEADRD43M2T2	Diode	
D907	MA3X028TAL	Diode	
D909	LN1271RAL	LED	
D911	MA729TX	Diode	
D912	MA729TX	Diode	
D913	MA729TX	Diode	
D914	MA729TX	Diode	
D915	MA729TX	Diode	
INTERFACE / FRONT SW BLOCK [E-8496A]			
D641	LNJ306G5TUWQ	LED	
D643	LNJ306G5TUWQ	LED	
CAPACITORS			
MAIN / CONNECTOR BLOCK [E-6788B]			
C50	F1J1H8R0A007	Ceramic,8pF 50WV	
C51	ECA1AM221I	Electrolytic,220MFD 10WV	
C53	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C54	ECA1AM221I	Electrolytic,220MFD 10WV	

Ref. No.	Part No.	Part Name & Description	Remarks
C55	ECEA1AKS221I	Electrolytic,220MFD 10WV	
C56	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C57	ECEA0JKS331I	Electrolytic,330MFD 6.3WV	
C58	ECEA1AKS220I	Electrolytic,22MFD 10WV	
C59	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C62	YECUS1H183KX	Ceramic,0.018MFD 50WV	
C63	YECUS1H183KX	Ceramic,0.018MFD 50WV	
C66	ECEA1AKS221I	Electrolytic,220MFD 10WV	
C68	YECUS1H221JM	Ceramic,220pF 50WV	
C201	YECUS1H221JM	Ceramic,220pF 50WV	
C203	ECEA1HKA3R3I	Electrolytic,3.3MFD 50WV	
C204	ECEA1HKA3R3I	Electrolytic,3.3MFD 50WV	
C205	YECUV1C224KX	Ceramic,0.22MFD 16WV	
C207	YECUS1C224KX	Ceramic,0.22MFD 16WV	
C208	YECUS1E333KX	Ceramic,0.033MFD 25WV	
C209	YECUS1H562KX	Ceramic,0.0056MFD 50WV	
C210	ECEA1CKS470I	Electrolytic,47MFD 16WV	
C211	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C212	YECUS1H221JM	Ceramic,220pF 50WV	
C217	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C218	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C220	YECUS1H123KX	Ceramic,0.012MFD 50WV	
C221	ECEA1HKS010I	Electrolytic,1MFD 50WV	
C223	ECEA0JKS470I	Electrolytic,47MFD 6.3WV	
C230	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C231	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C241	ECEA1HKSR47I	Electrolytic,0.47MFD 50WV	
C242	YECUS1H122KX	Ceramic,0.0012MFD 50WV	
C244	ECEA1HKSR47I	Electrolytic,0.47MFD 50WV	
C245	YECUS1H122KX	Ceramic,0.0012MFD 50WV	
C248	ECA1CDT472Y	Electrolytic,4700MFD 16WV	
C250	ECEA1CKS470I	Electrolytic,47MFD 16WV	
C251	ECEA1HKS2R2I	Electrolytic,2.2MFD 50WV	
C252	ECEA1AKS101	Electrolytic,100MFD 10WV	
C260	ECEA1CKS100I	Electrolytic,10MFD 16WV	
C261	ECEA0JKS470I	Electrolytic,47MFD 6.3WV	
C262	YECUS1C224KX	Ceramic,0.22MFD 16WV	
C263	YECUS1E223KX	Ceramic,0.022MFD 25WV	
C264	ECEA1HKS2R2I	Electrolytic,2.2MFD 50WV	
C265	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C266	ECEA0JKS470I	Electrolytic,47MFD 6.3WV	
C303	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C304	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C305	YECUV1C224KX	Ceramic,0.22MFD 16WV	
C307	YECUS1C224KX	Ceramic,0.22MFD 16WV	
C308	YECUS1E333KX	Ceramic,0.033MFD 25WV	
C309	YECUS1H562KX	Ceramic,0.0056MFD 50WV	
C310	ECEA0JKS101I	Electrolytic,100MFD 6.3WV	
C311	ECEA1CKS470I	Electrolytic,47MFD 16WV	
C321	ECA1HSA010I	Electrolytic,1MFD 50WV	
C323	ECEA0JKS470I	Electrolytic,47MFD 6.3WV	
C330	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C331	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C332	YECUS1H103KX	Ceramic,0.01MFD 50WV	

Ref. No.	Part No.	Part Name & Description	Remarks
C341	ECEA1HKSR47I	Electrolytic,0.47MFD 50WV	
C344	ECEA1HKSR47I	Electrolytic,0.47MFD 50WV	
C366	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C603	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C604	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C605	ECEA0JKS331I	Electrolytic,330MFD 6.3WV	
C607	EECS5R5T473	Electrolytic,0.047FD 5.5WV	
C608	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C611	YECUV1H104ZF	Ceramic,0.1MFD 50WV	
C612	YECUV1H104ZF	Ceramic,0.1MFD 50WV	
C615	YECUS1H390JM	Ceramic,39pF 50WV	
C616	YECUS1H150JM	Ceramic,15pF 50WV	
C617	YECUS1H221JM	Ceramic,220pF 50WV	
C618	YECUS1H221JM	Ceramic,220pF 50WV	
C637	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C650	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C660	ECEA1HKS2R2I	Electrolytic,2.2MFD 50WV	
C661	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C662	ECEA1HKS010I	Electrolytic,1MFD 50WV	
C663	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C664	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C665	ECA0JSA220I	Electrolytic,22MFD 6.3WV	
C666	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C690	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C702	ECEA1HKS4R7I	Electrolytic,4.7MFD 50WV	
C703	ECEA0JKS470I	Electrolytic,47MFD 6.3WV	
C705	ECEA1HKSR47I	Electrolytic,0.47MFD 50WV	
C706	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C707	ECA1AM471B	Electrolytic,470MFD 10WV	
C710	ECA1CHG102B	Electrolytic,1000MFD 16WV	
C711	F1K1E334A022	Ceramic,0.33MFD 25WV	
C712	EEAFC1A820H	Electrolytic,82MFD 10WV	
C714	ECEA0JKS331I	Electrolytic,330MFD 6.3WV	
C715	ECSH1CC106CR	Tantalum,10MFD 16WV	
C716	ECEA1CKS470I	Electrolytic,47MFD 16WV	
C718	F1K1E334A022	Ceramic,0.33MFD 25WV	
C719	F1K1E334A022	Ceramic,0.33MFD 25WV	
C720	ECEA0JKS470I	Electrolytic,47MFD 6.3WV	
C723	ECEA1AKS221I	Electrolytic,220MFD 10WV	
C724	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C727	EEVFC1C470P	Electrolytic,47MFD 16WV	
C728	YECUS1E104ZF	Ceramic,0.1MFD 25WV	
C810	ECEA0JKS220I	Electrolytic,22MFD 6.3WV	
C811	YECUS1H102KX	Ceramic,0.001MFD 50WV	
C812	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C813	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C814	ECEA1HKS2R2I	Electrolytic,2.2MFD 50WV	
J602	YECUV1H221JM	Ceramic,220pF 50WV	
DISPLAY BLOCK [E-8802A]			
C901	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C902	YECUS1H102KX	Ceramic,0.001MFD 50WV	
C906	YECUS1C334KX	Ceramic,0.33MFD 16WV	
C911	YECUS1C104KX	Ceramic,0.1MFD 16WV	

Ref. No.	Part No.	Part Name & Description	Remarks
C921	YECUS1H471JM	Ceramic,470pF 50WV	
C922	YECUS1H471JM	Ceramic,470pF 50WV	
C923	YECUS1H471JM	Ceramic,470pF 50WV	
C924	YECUS1H471JM	Ceramic,470pF 50WV	
C931	ECEV1CA101WP	Electrolytic,100MFD 16WV	
C932	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C933	F0F2A2230001	Plastic Film,0.022MFD 100WV	
C934	F1L3F1200001	Ceramic,12pF 3160WV	
RESISTORS			
MAIN / CONNECTOR BLOCK [E-6788B]			
J59	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
J401	ERJ8GX0R00V	Chip,0 ohms 1/8W	
J402	ERJ8GX0R00V	Chip,0 ohms 1/8W	
J601	ERJ8GX0R00V	Chip,0 ohms 1/8W	
R50	ERJ6GEYJ5R6	Chip,5.6 ohms 1/10W	
R51	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R52	ERJ6GEYJ822	Chip,8.2k ohms 1/10W	
R53	ERJ6GEYJ333	Chip,33k ohms 1/10W	
R56	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R58	ERJ6GEYJ331	Chip,330 ohms 1/10W	
R60	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R64	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R201	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R202	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R204	ERJ6GEYJ822	Chip,8.2k ohms 1/10W	
R205	ERJ6GEYJ332	Chip,3.3k ohms 1/10W	
R211	ERJ6GEYJ123	Chip,12k ohms 1/10W	
R212	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R213	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R214	ERJ6GEYJ392	Chip,3.9k ohms 1/10W	
R215	ERJ6GEYJ272	Chip,2.7k ohms 1/10W	
R216	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R217	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R218	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R225	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R226	ERJ6GEYJ333	Chip,33k ohms 1/10W	
R230	ERJ6GEYJ101	Chip,100 ohms 1/10W	
R231	ERJ6GEYJ561	Chip,560 ohms 1/10W	
R235	ERJ6GEYJ101	Chip,100 ohms 1/10W	
R236	ERJ6GEYJ561	Chip,560 ohms 1/10W	
R240	ERJ6GEYJ681	Chip,680 ohms 1/10W	
R241	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R242	ERJ6GEYJ681	Chip,680 ohms 1/10W	
R243	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R250	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R257	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R261	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R262	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R263	ERJ6GEYJ822	Chip,8.2k ohms 1/10W	
R264	ERJ6GEYJ433	Chip,43k ohms 1/10W	
R265	ERJ6GEY0R00V	Chip,0 ohms 1/10W	

Ref. No.	Part No.	Part Name & Description	Remarks
R267	ERJ6GEYJ153	Chip,15k ohms 1/10W	
R268	ERJ6GEYJ223	Chip,22k ohms 1/10W	
R270	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R273	ERJ6GEYJ561	Chip,560 ohms 1/10W	
R274	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R275	ERJ6GEYJ393	Chip,39k ohms 1/10W	
R276	ERJ6GEYJ101	Chip,100 ohms 1/10W	
R277	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R301	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R302	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R304	ERJ6GEYJ822	Chip,8.2k ohms 1/10W	
R305	ERJ6GEYJ332	Chip,3.3k ohms 1/10W	
R311	ERJ6GEYJ123	Chip,12k ohms 1/10W	
R312	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R313	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R314	ERJ6GEYJ392	Chip,3.9k ohms 1/10W	
R315	ERJ6GEYJ272	Chip,2.7k ohms 1/10W	
R316	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R317	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R318	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R330	ERJ6GEYJ101	Chip,100 ohms 1/10W	
R331	ERJ6GEYJ561	Chip,560 ohms 1/10W	
R335	ERJ6GEYJ101	Chip,100 ohms 1/10W	
R336	ERJ6GEYJ561	Chip,560 ohms 1/10W	
R340	ERJ6GEYJ681	Chip,680 ohms 1/10W	
R341	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R342	ERJ6GEYJ681	Chip,680 ohms 1/10W	
R343	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R350	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R370	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R600	ERJ6GEYJ330	Chip,33 ohms 1/10W	
R603	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R604	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R607	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R609	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R610	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R611	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R614	ERJ6GEYJ681	Chip,680 ohms 1/10W	
R615	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R617	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R618	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R619	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R620	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R621	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R622	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R623	ERJ6GEYJ184	Chip,180k ohms 1/10W	
R625	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R629	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R631	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R632	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R633	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R639	ERJ6GEYJ184	Chip,180k ohms 1/10W	
R642	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R643	ERJ6GEYJ104	Chip,100k ohms 1/10W	

Ref. No.	Part No.	Part Name & Description	Remarks
R645	ERJ6GEYJ273	Chip,27k ohms 1/10W	
R649	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R650	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R651	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R652	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R654	ERJ6GEYJ332	Chip,3.3k ohms 1/10W	
R656	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R658	ERJ6GEYJ562	Chip,5.6k ohms 1/10W	
R659	ERJ6GEYJ223	Chip,22k ohms 1/10W	
R660	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R661	ERJ6GEYJ393	Chip,39k ohms 1/10W	
R665	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R669	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R671	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R672	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R673	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R674	ERJ6GEYJ154	Chip,150k ohms 1/10W	
R675	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R676	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R677	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R680	ERJ6GEYJ331	Chip,330 ohms 1/10W	
R681	ERJ6GEYJ331	Chip,330 ohms 1/10W	
R682	ERJ6GEYJ332	Chip,3.3k ohms 1/10W	
R683	ERJ6GEYJ332	Chip,3.3k ohms 1/10W	
R684	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R685	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R690	ERJ6GEYJ184	Chip,180k ohms 1/10W	
R695	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R701	ERDS2FJ5R6	Carbon,5.6 ohms 1/4W	
R702	ERDS2FJ5R6	Carbon,5.6 ohms 1/4W	
R703	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R704	ERJ6GEYJ274	Chip,270k ohms 1/10W	
R705	ERJ6GEYJ433	Chip,43k ohms 1/10W	
R706	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R707	ERJ6GEYJ224	Chip,220k ohms 1/10W	
R708	ERJ6GEYJ433	Chip,43k ohms 1/10W	
R709	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R710	ERDS1FJ681	Carbon,680 ohms 1/2W	
R711	ERDS1FJ681	Carbon,680 ohms 1/2W	
R712	ERDS2FJ1R0T	Carbon,1.0 ohms 1/4W	
R714	ERJ6GEYJ561	Chip,560 ohms 1/10W	
R715	ERJ8GEYJ151V	Chip,150 ohms 1/8W	
R716	ERJ8GEYJ151V	Chip,150 ohms 1/8W	
R719	ERDS2FJ1R0T	Carbon,1.0 ohms 1/4W	
R720	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R721	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R722	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R723	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R724	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R726	ERJ6GEYJ472	Chip,4.7k ohms 1/10W	
R729	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R801	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R804	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R805	ERJ6GEYJ104	Chip,100k ohms 1/10W	

Ref. No.	Part No.	Part Name & Description	Remarks
R806	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R807	ERJ6GEYJ123	Chip,12k ohms 1/10W	
R808	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R809	ERJ6GEYJ472	Chip,4.7k ohms 1/10W	
R902	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R903	ERJ6GEYJ103	Chip,10k ohms 1/10W	
DISPLAY BLOCK [E-8802A]			
R901	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R902	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R903	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R904	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R905	ERJ6GEYJ4R7	Chip,4.7 ohms 1/10W	
R906	ERJ6GEYJ471	Chip,470 ohms 1/10W	
R907	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R908	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R909	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R911	ERJ6GEYJ472	Chip,4.7k ohms 1/10W	
R912	ERJ6GEYJ472	Chip,4.7k ohms 1/10W	
R913	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R914	ERJ6GEYJ472	Chip,4.7k ohms 1/10W	
R915	ERJ6GEYJ472	Chip,4.7k ohms 1/10W	
R917	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R918	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R919	ERJ6GEYJ563	Chip,56k ohms 1/10W	
R920	ERJ6GEYJ224	Chip,220k ohms 1/10W	
R921	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R922	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R923	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R924	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R931	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R932	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R970	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
CONNECTORS			
MAIN / CONNECTOR BLOCK [E-6788B]			
AJ251	K2KF49Z00005	RCA Connector,CD.C-IN	
CN251	YEAES04BPHT1	Connector,4P	
CN300	YEAE02166	Connector,4P RCA	
CN601	YEAE0115MX	Connector,15P	
CN604	YEAE0104MX	Connector,4P	
CN621	K1MN14B00028	Connector,14P	
CN681	YEAE012307	Connector,8P DIN	
CN701	YEAE012748	Connector,16P	
CN603	YEAE0106TUCX	Connector,6P	
CP603	YEAE0106TUCP	Connector,6P	
DISPLAY BLOCK [E-8802A]			
CN901	YEAE012760	Connector,14P	
INTERFACE / FRONT SW BLOCK [E-8496A]			
CJ640	YEAE0115MPA	Connector,15P	

Ref. No.	Part No.	Part Name & Description	Remarks
CJ642	YEAE0104MPA	Connector,4P	
CP641	YEAE012761	Connector,14P	
ELECTRIC PARTS			
SWITCHES			
SW602	YEAS09248R	Switch	
SW901	YEAS09312	Switch	
SW902	YEAS09312	Switch	
SW903	K0H1BA000285	Switch	
SW904	K0H1BA000285	Switch	
SW905	YEAS09312	Switch	
SW906	YEAS09312	Switch	
SW907	YEAS09312	Switch	
SW908	K0H1BA000285	Switch	
SW910	K0H1BA000285	Switch	
SW911	YEAS09312	Switch	
SW912	YEAS09312	Switch	
SW913	K0H1BA000285	Switch	
SW914	K0H1BA000285	Switch	
SW915	K0H1BA000285	Switch	
SW916	YEAS09312	Switch	
SW917	YEAS09312	Switch	
SW918	K0H1BA000285	Switch	
SW919	K0H1BA000285	Switch	
SW610	YEAS09267	Switch	
CRYSTALS			
XL600	H0D125500002	Crystal OSC	
XL601	YEXLMC60327	Crystal OSC	
COILS			
L50	YELT03A330KT	Coil	
L51	YELT02C330KT	Coil	
L52	YELT02C330KT	Coil	
L600	YELT02C101KT	Coil	
L601	YELT02C101KT	Coil	
L702	YETQ026F143	Coil	
L703	ELEAT330KA02	Coil	
L931	YELTD75F101T	Coil	
L932	ETJ11K92AM	Transformer	
LCD			
LCD901	L5ADBLC00001	LCD Display	
LAMPS			
CFL931	A2CA00000019	Display Tube	
Z50	J0LE00000002	Neone Tube	

Ref. No.	Part No.	Part Name & Description	Remarks
THERMISTORS			
PT701	YERT7AR4R7MT	Thermistor	

12.2. Replacement Parts List / [CQ-MR303N]

Ref. No.	Part No.	Part Name & Description	Remarks
ICs AND TRANSISTORS			
MAIN / CONNECTOR BLOCK [E-6788B]			
IC201	YEAMEA6320TT	IC	
IC203	YEAMM5218AFE	IC	
IC204	YEAMPD4053E2	IC	
IC241	YEAMTDA7384	IC	
IC600	C2CBJG000065	IC	
IC601	AN8065SE1	IC	
IC602	C0CAABC00002	IC	
IC650	YEAMC14584BE	IC	
IC702	YEAMA41W12ST	IC	
IC704	C0CBAEG00003	IC	
IC802	YEAMM5218AFE	IC	
PA51	C5BA00000053	IC	
Q50	YEANFP1F3PT1	Transistor	
Q51	B1GBCFNN0005	Transistor	
Q230	YEANC323TUTX	Transistor	
Q231	YEANC323TUTX	Transistor	
Q330	YEANC323TUTX	Transistor	
Q331	YEANC323TUTX	Transistor	
Q601	B1GBCFNN0005	Transistor	
Q602	B1GBCFNN0005	Transistor	
Q660	YEANA114EKTX	Transistor	
Q661	YEANA114EKTX	Transistor	
Q663	YEANA114EKTX	Transistor	
Q664	B1GBCFNN0005	Transistor	
Q701	YEAND1859T	Transistor	
Q703	YEANB1243QRT	Transistor	
Q704	B1GBCFJN0005	Transistor	
Q705	2SD2139TA	Transistor	
Q706	YEANA114EKTX	Transistor	
Q707	YEANA114EKTX	Transistor	
Q710	YEAND1859T	Transistor	
Q711	B1GBCFNN0005	Transistor	
Q712	B1GBCFNN0005	Transistor	
DISPLAY BLOCK [E-8801A]			
IC901	YEAMLC75884W	IC	
IC905	YEAMSBX8035F	IC	
Q902	YEANSSTA06T	Transistor	
Q903	YEANSSTA06T	Transistor	
DIODES			
MAIN / CONNECTOR BLOCK [E-6788B]			

Ref. No.	Part No.	Part Name & Description	Remarks
D50	YEADRD51MBT1	Diode	
D201	MA165TA	Diode	
D602	LN25RP	LED	
D701	YEADSR1544TL	Diode	
D702	MA165TA	Diode	
D703	B0BA5R700006	Diode	
D707	YEADRB100AT	Diode	
D708	YEADRD91M1T2	Diode	
D709	MA153TX	Diode	
D710	YEADRD27M2T1	Diode	
D715	YEADDAM3MA47	Diode	
D717	MA721TX	Diode	
D720	YEADRD51MBT1	Diode	
D803	MA165TA	Diode	
D804	YEADRD51MBT1	Diode	
DISPLAY BLOCK [E-8801A]			
D900	LN1271RAL	LED	
D926	MA8056LMHTX	Diode	
D927	MA8056LMHTX	Diode	
D928	MA8056LMHTX	Diode	
D929	MA8056LMHTX	Diode	
D930	MA8047MTX	Diode	
INTERFACE / FRONT SW BLOCK [E-8496A]			
D641	LNJ306G5TUWQ	LED	
D643	LNJ306G5TUWQ	LED	
CAPACITORS			
MAIN / CONNECTOR BLOCK [E-6788B]			
C50	F1J1H8R0A007	Ceramic,8pF 50WV	
C51	ECA1AM221I	Electrolytic,220MFD 10WV	
C53	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C54	ECA1AM221I	Electrolytic,220MFD 10WV	
C55	ECEA1AKS221I	Electrolytic,220MFD 10WV	
C56	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C57	ECEA0JKS331I	Electrolytic,330MFD 6.3WV	
C58	ECEA1AKS220I	Electrolytic,22MFD 10WV	
C59	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C62	YECUS1H183KX	Ceramic,0.018MFD 50WV	
C63	YECUS1H183KX	Ceramic,0.018MFD 50WV	
C66	ECEA1AKS221I	Electrolytic,220MFD 10WV	
C68	YECUS1H221JM	Ceramic,220pF 50WV	
C201	YECUS1H221JM	Ceramic,220pF 50WV	
C203	ECEA1HKA3R3I	Electrolytic,3.3MFD 50WV	
C204	ECEA1HKA3R3I	Electrolytic,3.3MFD 50WV	
C205	YECUV1C224KX	Ceramic,0.22MFD 16WV	
C207	YECUS1C224KX	Ceramic,0.22MFD 16WV	
C208	YECUS1E333KX	Ceramic,0.033MFD 25WV	
C209	YECUS1H562KX	Ceramic,0.0056MFD 50WV	
C210	ECEA1CKS470I	Electrolytic,47MFD 16WV	
C211	YECUS1H103KX	Ceramic,0.01MFD 50WV	

Ref. No.	Part No.	Part Name & Description	Remarks
C212	YECUS1H221JM	Ceramic,220pF 50WV	
C217	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C218	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C220	YECUS1H123KX	Ceramic,0.012MFD 50WV	
C221	ECEA1HKS010I	Electrolytic,1MFD 50WV	
C223	ECEA0JKS470I	Electrolytic,47MFD 6.3WV	
C230	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C231	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C241	ECEA1HKSR47I	Electrolytic,0.47MFD 50WV	
C242	YECUS1H122KX	Ceramic,0.0012MFD 50WV	
C244	ECEA1HKSR47I	Electrolytic,0.47MFD 50WV	
C245	YECUS1H122KX	Ceramic,0.0012MFD 50WV	
C246	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C248	ECA1CDT472Y	Electrolytic,4700MFD 16WV	
C249	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C250	ECEA1CKS470I	Electrolytic,47MFD 16WV	
C251	ECEA1HKS2R2I	Electrolytic,2.2MFD 50WV	
C252	ECEA1AKS101	Electrolytic,100MFD 10WV	
C301	YECUS1H221JM	Ceramic,220pF 50WV	
C303	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C304	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C305	YECUV1C224KX	Ceramic,0.22MFD 16WV	
C307	YECUS1C224KX	Ceramic,0.22MFD 16WV	
C308	YECUS1E333KX	Ceramic,0.033MFD 25WV	
C309	YECUS1H562KX	Ceramic,0.0056MFD 50WV	
C310	ECEA0JKS101I	Electrolytic,100MFD 6.3WV	
C311	ECEA1CKS470I	Electrolytic,47MFD 16WV	
C312	YECUS1H221JM	Ceramic,220pF 50WV	
C317	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C318	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C320	YECUS1H123KX	Ceramic,0.012MFD 50WV	
C321	ECA1HSA010I	Electrolytic,1MFD 50WV	
C323	ECEA0JKS470I	Electrolytic,47MFD 6.3WV	
C330	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C331	ECEA1HKS3R3I	Electrolytic,3.3MFD 50WV	
C332	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C341	ECEA1HKSR47I	Electrolytic,0.47MFD 50WV	
C342	YECUS1H122KX	Ceramic,0.0012MFD 50WV	
C344	ECEA1HKSR47I	Electrolytic,0.47MFD 50WV	
C345	YECUS1H122KX	Ceramic,0.0012MFD 50WV	
C348	YECUV1H104ZF	Ceramic,0.1MFD 50WV	
C601	YECUS1H220JM	Ceramic,22pF 50WV	
C602	YECUS1H220JM	Ceramic,22pF 50WV	
C603	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C604	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C605	ECEA0JKS331I	Electrolytic,330MFD 6.3WV	
C607	EECS5R5T473	Electrolytic,0.047FD 5.5WV	
C608	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C611	YECUV1H104ZF	Ceramic,0.1MFD 50WV	
C612	YECUV1H104ZF	Ceramic,0.1MFD 50WV	
C615	YECUS1H390JM	Ceramic,39pF 50WV	
C616	YECUS1H150JM	Ceramic,15pF 50WV	
C617	YECUS1H221JM	Ceramic,220pF 50WV	
C618	YECUS1H221JM	Ceramic,220pF 50WV	

Ref. No.	Part No.	Part Name & Description	Remarks
C637	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C650	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C660	ECEA1HKS2R2I	Electrolytic,2.2MFD 50WV	
C661	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C662	ECEA1HKS010I	Electrolytic,1MFD 50WV	
C663	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C664	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C665	ECEA0JKS220I	Electrolytic,22MFD 6.3WV	
C666	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C690	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C702	ECEA1HKS4R7I	Electrolytic,4.7MFD 50WV	
C703	ECEA0JKS470I	Electrolytic,47MFD 6.3WV	
C705	ECEA1HKSR47I	Electrolytic,0.47MFD 50WV	
C706	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C707	ECA1AM471B	Electrolytic,470MFD 10WV	
C710	ECA1CHG102B	Electrolytic,1000MFD 16WV	
C711	F1K1E334A022	Ceramic,0.33MFD 25WV	
C712	EEAFC1A820H	Electrolytic,82MFD 10WV	
C714	ECEA0JKS331I	Electrolytic,330MFD 6.3WV	
C715	ECSH1CC106CR	Tantalum,10MFD 16WV	
C716	ECEA1CKS470I	Electrolytic,47MFD 16WV	
C718	F1K1E334A022	Ceramic,0.33MFD 25WV	
C719	F1K1E334A022	Ceramic,0.33MFD 25WV	
C720	ECEA0JKS470I	Electrolytic,47MFD 6.3WV	
C723	ECEA1AKS221I	Electrolytic,220MFD 10WV	
C724	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C727	EEVFC1C470P	Electrolytic,47MFD 16WV	
C728	YECUS1E104ZF	Ceramic,0.1MFD 25WV	
C810	ECEA0JKS220I	Electrolytic,22MFD 6.3WV	
C811	YECUS1H102KX	Ceramic,0.001MFD 50WV	
C812	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C813	YECUS1H103KX	Ceramic,0.01MFD 50WV	
C814	ECEA1HKS2R2I	Electrolytic,2.2MFD 50WV	
J602	YECUV1H221JM	Ceramic,220pF 50WV	
DISPLAY BLOCK [E-8801A]			
C905	F0F2A2230001	Plastic Film,0.022MFD 100WV	
C906	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C907	ECEV1CA101WP	Electrolytic,100MFD 16WV	
C910	YECUS1H102KX	Ceramic,0.001MFD 50WV	
C911	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C914	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C915	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C920	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C921	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C923	YECUS1H681JM	Ceramic,680pF 50WV	
C934	F1L3F1200001	Ceramic,12pF 3160WV	
RESISTORS			
MAIN / CONNECTOR BLOCK [E-6788B]			
J59	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
J401	ERJ8GX0R00V	Chip,0 ohms 1/8W	

Ref. No.	Part No.	Part Name & Description	Remarks
J402	ERJ8GX0R00V	Chip,0 ohms 1/8W	
J601	ERJ8GX0R00V	Chip,0 ohms 1/8W	
R50	ERJ6GEYJ5R6	Chip,5.6 ohms 1/10W	
R51	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R52	ERJ6GEYJ822	Chip,8.2k ohms 1/10W	
R53	ERJ6GEYJ333	Chip,33k ohms 1/10W	
R56	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R58	ERJ6GEYJ331	Chip,330 ohms 1/10W	
R60	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R64	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R201	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R202	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R204	ERJ6GEYJ822	Chip,8.2k ohms 1/10W	
R205	ERJ6GEYJ332	Chip,3.3k ohms 1/10W	
R211	ERJ6GEYJ123	Chip,12k ohms 1/10W	
R212	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R213	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R214	ERJ6GEYJ392	Chip,3.9k ohms 1/10W	
R215	ERJ6GEYJ272	Chip,2.7k ohms 1/10W	
R216	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R217	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R218	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R225	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R226	ERJ6GEYJ333	Chip,33k ohms 1/10W	
R230	ERJ6GEYJ101	Chip,100 ohms 1/10W	
R231	ERJ6GEYJ561	Chip,560 ohms 1/10W	
R235	ERJ6GEYJ101	Chip,100 ohms 1/10W	
R236	ERJ6GEYJ561	Chip,560 ohms 1/10W	
R240	ERJ6GEYJ681	Chip,680 ohms 1/10W	
R241	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R242	ERJ6GEYJ681	Chip,680 ohms 1/10W	
R243	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R250	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R301	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R302	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R304	ERJ6GEYJ822	Chip,8.2k ohms 1/10W	
R305	ERJ6GEYJ332	Chip,3.3k ohms 1/10W	
R311	ERJ6GEYJ123	Chip,12k ohms 1/10W	
R312	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R313	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R314	ERJ6GEYJ392	Chip,3.9k ohms 1/10W	
R315	ERJ6GEYJ272	Chip,2.7k ohms 1/10W	
R316	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R317	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R318	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R330	ERJ6GEYJ101	Chip,100 ohms 1/10W	
R331	ERJ6GEYJ561	Chip,560 ohms 1/10W	
R335	ERJ6GEYJ101	Chip,100 ohms 1/10W	
R336	ERJ6GEYJ561	Chip,560 ohms 1/10W	
R340	ERJ6GEYJ681	Chip,680 ohms 1/10W	
R341	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R342	ERJ6GEYJ681	Chip,680 ohms 1/10W	
R343	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R350	ERJ6GEYJ104	Chip,100k ohms 1/10W	

Ref. No.	Part No.	Part Name & Description	Remarks
R600	ERJ6GEYJ330	Chip,33 ohms 1/10W	
R602	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R604	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R607	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R609	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R610	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R611	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R614	ERJ6GEYJ681	Chip,680 ohms 1/10W	
R615	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R617	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R618	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R619	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R620	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R621	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R622	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R623	ERJ6GEYJ184	Chip,180k ohms 1/10W	
R625	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R629	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R631	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R632	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R633	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R639	ERJ6GEYJ184	Chip,180k ohms 1/10W	
R642	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R643	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R645	ERJ6GEYJ273	Chip,27k ohms 1/10W	
R649	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R650	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R651	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R652	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R654	ERJ6GEYJ332	Chip,3.3k ohms 1/10W	
R656	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R658	ERJ6GEYJ562	Chip,5.6k ohms 1/10W	
R659	ERJ6GEYJ223	Chip,22k ohms 1/10W	
R660	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R661	ERJ6GEYJ393	Chip,39k ohms 1/10W	
R665	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R669	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R671	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R672	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R673	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R674	ERJ6GEYJ154	Chip,150k ohms 1/10W	
R675	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R676	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
R677	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R680	ERJ6GEYJ331	Chip,330 ohms 1/10W	
R681	ERJ6GEYJ331	Chip,330 ohms 1/10W	
R682	ERJ6GEYJ332	Chip,3.3k ohms 1/10W	
R683	ERJ6GEYJ332	Chip,3.3k ohms 1/10W	
R684	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R685	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R690	ERJ6GEYJ184	Chip,180k ohms 1/10W	
R695	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R701	ERDS2FJ5R6	Carbon,5.6 ohms 1/4W	
R702	ERDS2FJ5R6	Carbon,5.6 ohms 1/4W	

Ref. No.	Part No.	Part Name & Description	Remarks
R703	ERJ6GEYJ682	Chip,6.8k ohms 1/10W	
R704	ERJ6GEYJ274	Chip,270k ohms 1/10W	
R705	ERJ6GEYJ433	Chip,43k ohms 1/10W	
R706	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R707	ERJ6GEYJ224	Chip,220k ohms 1/10W	
R708	ERJ6GEYJ433	Chip,43k ohms 1/10W	
R709	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R710	ERDS1FJ681	Carbon,680 ohms 1/2W	
R711	ERDS1FJ681	Carbon,680 ohms 1/2W	
R712	ERDS2FJ1R0T	Carbon,1.0 ohms 1/4W	
R714	ERJ6GEYJ561	Chip,560 ohms 1/10W	
R715	ERJ8GEYJ151V	Chip,150 ohms 1/8W	
R716	ERJ8GEYJ151V	Chip,150 ohms 1/8W	
R720	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R721	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R722	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R723	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R724	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R726	ERJ6GEYJ472	Chip,4.7k ohms 1/10W	
R729	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R801	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R804	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R805	ERJ6GEYJ104	Chip,100k ohms 1/10W	
R806	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R807	ERJ6GEYJ123	Chip,12k ohms 1/10W	
R808	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R809	ERJ6GEYJ472	Chip,4.7k ohms 1/10W	
R902	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R903	ERJ6GEYJ103	Chip,10k ohms 1/10W	
DISPLAY BLOCK [E-8801A]			
R906	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R907	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R908	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R909	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R910	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R911	ERJ6GEYJ102	Chip,1k ohms 1/10W	
R930	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R931	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R938	ERJ6GEYJ4R7	Chip,4.7 ohms 1/10W	
R941	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R942	ERJ6GEYJ433	Chip,43k ohms 1/10W	
R961	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R962	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R963	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R964	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R965	ERJ6GEYJ103	Chip,10k ohms 1/10W	
R970	ERJ6GEY0R00V	Chip,0 ohms 1/10W	
CONNECTORS			
MAIN / CONNECTOR BLOCK [E-6788B]			
AJ251	K2KF49Z00005	RCA Connector,CD.C-IN	

Ref. No.	Part No.	Part Name & Description	Remarks
CN251	YEAES04BPHT1	Connector,4P	
CN300	YEAE02166	Connector,4P RCA	
CN601	YEAE0115MX	Connector,15P	
CN604	YEAE0104MX	Connector,4P	
CN621	K1MN14B00028	Connector,14P	
CN681	YEAE012307	Connector,8P DIN	
CN701	YEAE012748	Connector,16P	
CN603	YEAE0106TUCX	Connector,6P	
CP603	YEAE0106TUCP	Connector,6P	
DISPLAY BLOCK [E-8801A]			
CN901	YEAE012760	Connector,14P	
INTERFACE / FRONT SW BLOCK [E-8496A]			
CJ640	YEAE0115MPA	Connector,15P	
CJ642	YEAE0104MPA	Connector,4P	
CP641	YEAE012761	Connector,14P	
ELECTRIC PARTS			
SWITCHES			
SW602	YEAS09248R	Switch	
SW901	YEAS09312	Switch	
SW902	YEAS09312	Switch	
SW903	YEAS09312	Switch	
SW904	YEAS09312	Switch	
SW905	YEAS09312	Switch	
SW906	YEAS09312	Switch	
SW907	YEAS09312	Switch	
SW908	YEAS09312	Switch	
SW909	YEAS09312	Switch	
SW910	YEAS09312	Switch	
SW911	YEAS09312	Switch	
SW912	YEAS09312	Switch	
SW913	YEAS09312	Switch	
SW914	YEAS09312	Switch	
SW915	YEAS09312	Switch	
SW916	YEAS09312	Switch	
SW917	YEAS09312	Switch	
SW918	YEAS09312	Switch	
SW610	YEAS09267	Switch	
CRYSTALS			
XL600	H0D125500002	Crystal OSC	
XL601	YEXLMC60327	Crystal OSC	
COILS			
L50	YELT03A330KT	Coil	
L51	YELT02C330KT	Coil	
L52	YELT02C330KT	Coil	
L600	YELT02C101KT	Coil	

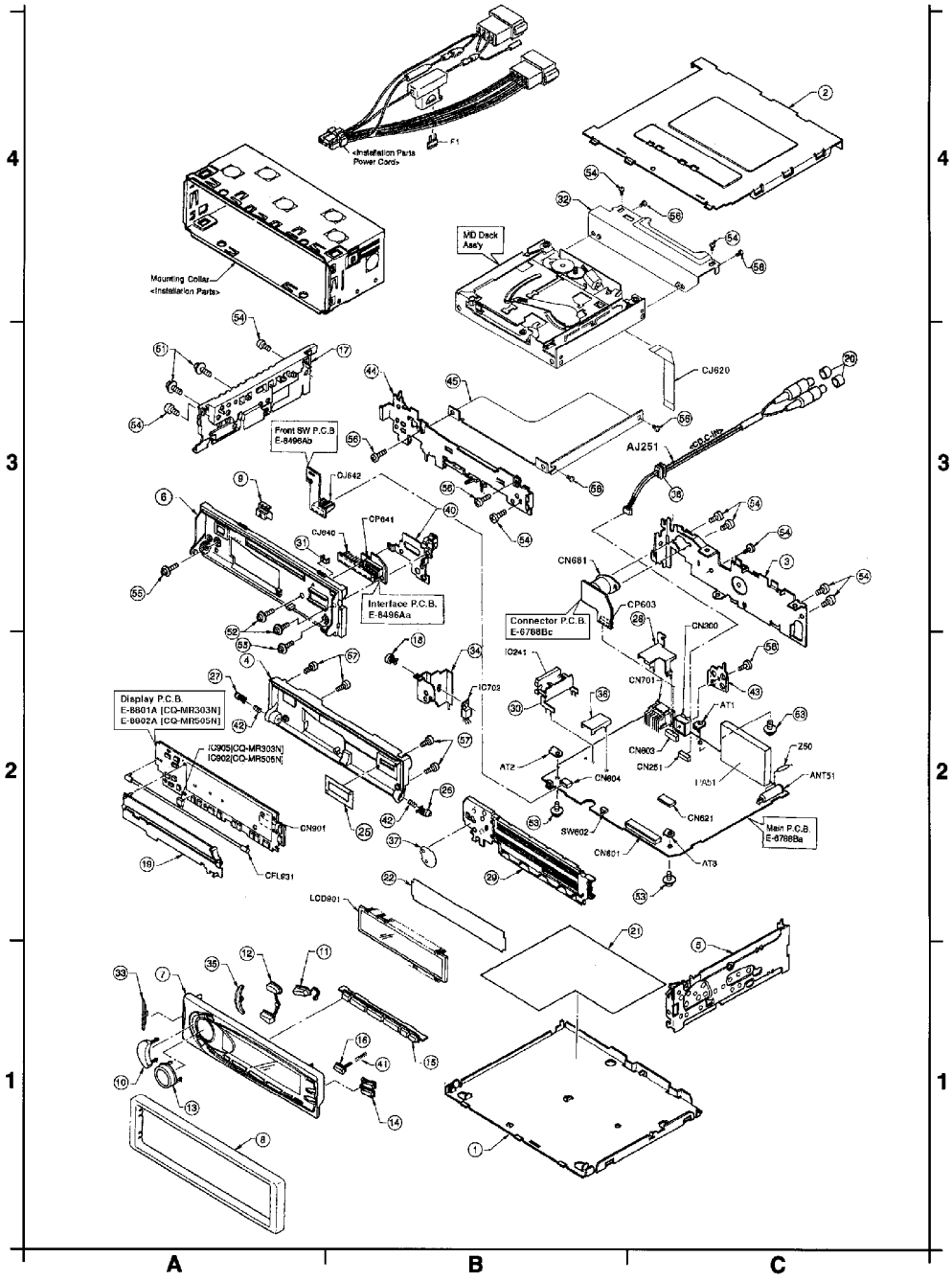
Ref. No.	Part No.	Part Name & Description	Remarks
L601	YELT02C101KT	Coil	
L702	YETQ026F143	Coil	
L703	ELEAT330KA02	Coil	
L902	YELTD75F101T	Coil	
L901	ETJ11K92AM	Transformer	
LCD			
LCD901	L5ACCLC00016	LCD Display	
LAMPS			
CFL931	A2CA00000018	Display Tube	
Z50	J0LE00000002	None Tube	
THERMISTORS			
PT701	YERT7AR4R7MT	Thermistor	

12.3. Accessories and Mechanical Parts [CQ-MR505N/303N]

Ref. No.	Part No.	Part Name & Description	Remarks
ACCESSORIES			
PRINTINGS			
	YEFM283495	Operating Instructions	
INSTALLATION PARTS			
1	YEFX0214198	Mounting Collar	
2	YEP9BS1111	Screws	
3	YEAJ02827	Power Cord	
4	YEFA131302	Detachable Unit Case	
5	YEFX9992013	Remote Controller	
7	CR2025/1F	Battery	⚠
8	YEAA33144	Antenna Accessory	
MECHANICAL PARTS			
MISCELLANEOUS			
F1	YEAF02015	Fuse,15A	⚠
ANT51	YGAA10082	Antenna Receptacle	
AT1	K4ZZ01000048	Terminal	
AT2	K4ZZ01000048	Terminal	
AT3	K4ZZ01000048	Terminal	
CJ620	K9ZZ00000723	Connector,14P	
1	YEFA05594B	Bottom Cover	(1-B)
2	YEFA031359E	Upper Cover	(4-C)
3	YEFA08462AK	Rear Plate	(3-C)
4	YEFA131413	Cover,Detachable	(2-A)
5	YEFA09505	Side Plate	(1-C)
6	YEFC026028	Escutcheon Ass'y,Unit	(3-A)

Ref. No.	Part No.	Part Name & Description	Remarks
7	YEFC026667	Escutcheon Ass'y,Detachable [CQ-MR505N]	(1-A)
	YEFC026669	Escutcheon Ass'y,Detachable [CQ-MR303N]	(1-A)
8	YEFC05570	Trim Plate	(1-A)
9	YEFE135147	Button,EJECT	(3-A)
10	YEFE135435	Button,VOL	(1-A)
11	YEFE135436	Button,SEL	(1-A)
12	YEFE135713	Button,BAND/SOURCE	(1-A)
13	YEFE135439	Button,TUNE/TRACK	(1-A)
14	YEFE135534	Button,TA/AF	(1-B)
15	YEFE135532	Button,PRESET [CQ-MR505N]	(1-B)
	YEFE135933	Button,PRESET [CQ-MR303N]	(1-B)
16	YEFE135442	Button,OPEN	(1-B)
17	YEFF01922	Heat Sink	(3-B)
18	YEFJ05046	Color Rivet	(2-B)
19	YEFK06835	Holder,LCD	(2-A)
20	YEFR04187	Lead Cap	(3-C)
21	YEFV011813	Insulator	(2-C)
22	YEFV021596	Optical Shade	(2-B)
25	YEFV011928	Insulator	(2-B)
26	YEFW04156	Shaft Collar	(2-B)
27	YEFW04157	Shaft Collar	(2-A)
28	YEFX0214422	Bracket,CN701	(3-C)
29	YEFX0011903	Transparent Plate	(2-B)
30	YEFX0213945B	Bracket,IC241	(2-B)
31	YEFX0011816	Transparent Plate	(3-A)
32	YEFX0214984	Bracket,Deck	(4-B)
33	YEFX0011904	Transparent Plate	(1-A)
34	YEFX0214423	Bracket,IC702	(2-B)
35	YEFX0011905	Transparent Plate	(1-A)
36	YEFX0214168	Bracket,IC704	(2-B)
37	YEFX025137	Color Screen	(2-C)
38	YEFX007380	Cord Clamper	(3-C)
40	YEP9FX069	Hook Bracket Ass'y	(3-B)
41	YEFX0052396	Spring	(1-B)
42	YEFX0052253	Spring	(2-A) (2-B)
43	YEFX0213650	Bracket,RCA	(2-C)
44	YEP9FX089	Front Chassis Ass'y	(3-B)
45	YEFX0215059	Cover,MD Deck	(3-B)
51	YEJS06092	Screw,3mm * 10mm	(3-A)
52	YEJS03020	Screw,2mm * 4mm	(3-A)
53	YEJT03009	Tapping Screw,3mm * 8mm	(2-B) (2-C)
54	XTB3+6FFX	Tapping Screw,3mm * 6mm	
55	YEJT03156	Tapping Screw,2.6mm * 4mm	(2-A) (3-A)
56	XSB26+4FX	Screw,2.6mm * 4mm	
57	XTN2+8GFZ	Tapping Screw,2mm * 8mm	(2-B)
58	XTB3+8GFX	Tapping Screw,3mm * 8mm	(2-B)

13. EXPLODED VIEW (Unit)



14. MD PLAYER PARTS / [CQ-MR505N/303N]

Ref. No.	Part No.	Part Name & Description	Remarks
ICs AND TRANSISTORS			
MD Servo Block [E-8886]			
IC101	AN8774FHQ	IC	
IC401	MN66619REUC	IC	
IC501	MN101C28LAB	IC	
IC901	C0GBY0000007	IC	
IC201	C0ABBB000038	IC	
Q101	2SB766ATX	Transistor	
Q901	B1ADND000004	Transistor	
Q902	B1GDCFJN0011	Transistor	
CAPACITORS			
MD Servo Block [E-8886]			
C101	F1J1A1050010	Ceramic,1MFD 10WV	
C102	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C103	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C104	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C105	YECUZ1E223KX	Ceramic,0.022MFD 25WV	
C106	YECUZ1H102KX	Ceramic,1000PF 50WV	
C108	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C109	YECUZ1H103KX	Ceramic,0.01MFD 50WV	
C110	YECUZ1H102KX	Ceramic,1000PF 50WV	
C111	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C112	YECUZ1H472KX	Ceramic,4700PF 50WV	
C113	YECUZ1H103KX	Ceramic,0.01MFD 50WV	
C114	YECUZ1H103KX	Ceramic,0.01MFD 50WV	
C115	YECUZ1H102KX	Ceramic,1000PF 50WV	
C116	F1H1E822A090	Ceramic,8200PF 25WV	
C117	YECUZ1C823KX	Ceramic,0.082MFD 16WV	
C118	YECUZ1C333KX	Ceramic,0.033MFD 16WV	
C119	YECUZ1C823KX	Ceramic,0.082MFD 16WV	
C120	YECUZ1H332KX	Ceramic,3300PF 50WV	
C121	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C122	YECSW1A226MS	Electrolytic,22MFD 10WV	
C123	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C124	YECUZ1H102KX	Ceramic,1000PF 50WV	
C125	YECUZ1C333KX	Ceramic,0.033MFD 16WV	
C126	YECUZ1C393KX	Ceramic,0.039MFD 16WV	
C127	F1J1A1050010	Ceramic,1MFD 10WV	
C128	F1H1H681A201	Ceramic,680PF 50WV	
C129	F1H1H681A201	Ceramic,680PF 50WV	
C130	YECUS1C224KX	Ceramic,0.22MFD 16WV	
C131	YECUS1C224KX	Ceramic,0.22MFD 16WV	
C202	YECUZ1H151JC	Ceramic,150PF 50WV	
C203	YECUZ1H151JC	Ceramic,150PF 50WV	
C205	YECUZ1H151JC	Ceramic,150PF 50WV	
C206	YECUZ1H151JC	Ceramic,150PF 50WV	
C208	YECSW0J156MA	Electrolytic,15MFD 6.3WV	
C209	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C210	ECEV0GA101SR	Electrolytic,100MFD 6.3WV	
C211	YECSW0J156MA	Electrolytic,15MFD 6.3WV	
C401	YECUZ1H102KX	Ceramic,1000PF 50WV	
C402	YECUZ1H472KX	Ceramic,4700PF 50WV	

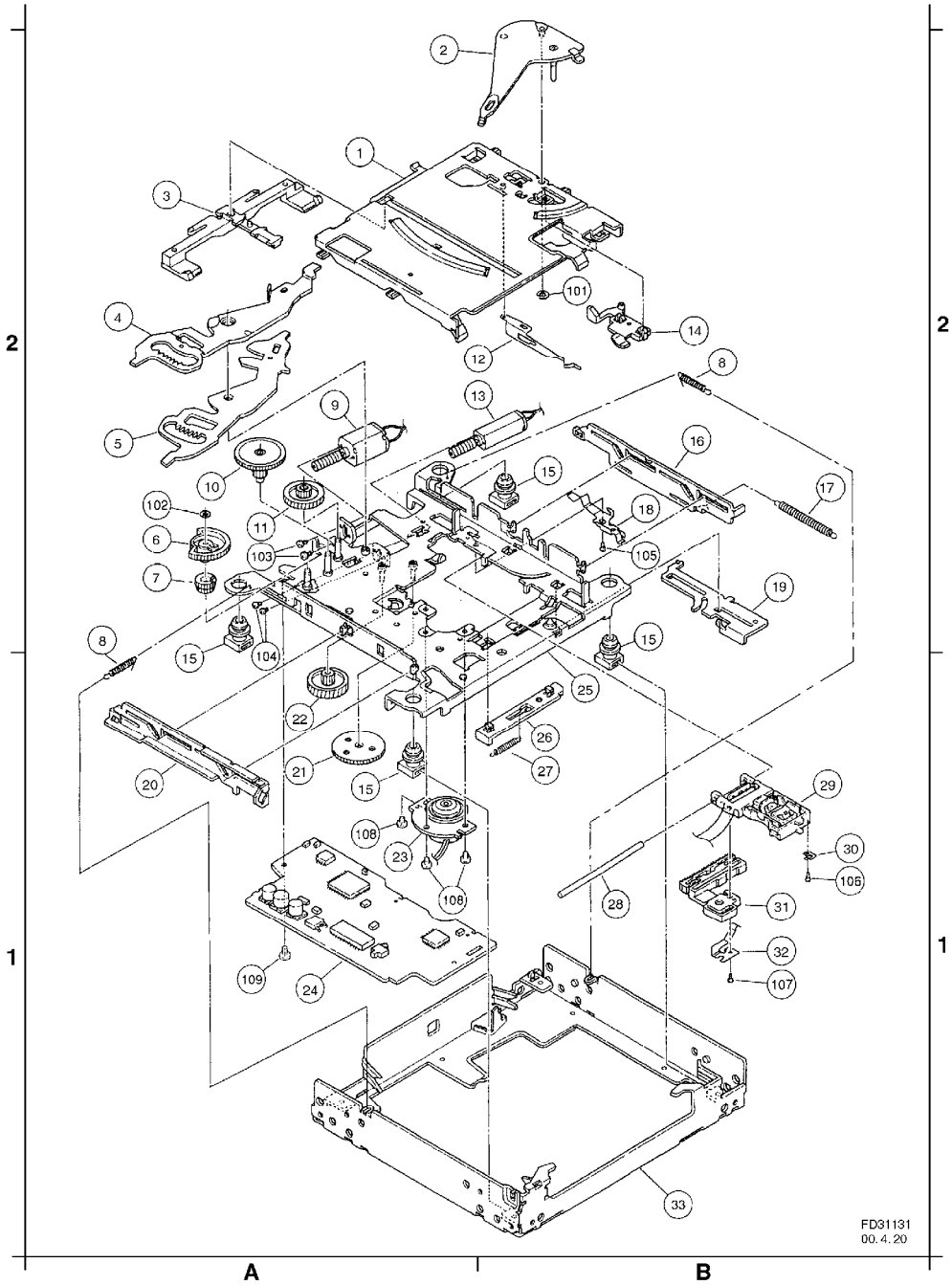
Ref. No.	Part No.	Part Name & Description	Remarks
C403	F1J1A1050010	Ceramic,1MFD 10WV	
C404	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C405	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C406	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C407	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C408	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C409	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C410	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C411	F1J1A1050010	Ceramic,1MFD 10WV	
C412	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C413	F1H1E123A011	Ceramic,0.012MFD 25WV	
C414	YECUZ1H221JC	Ceramic,220PF 50WV	
C415	F1H1C473A005	Ceramic,0.047MFD 25WV	
C416	F1J1A1050010	Ceramic,1MFD 10WV	
C417	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C419	YECSW1A226MS	Electrolytic,22MFD 10WV	
C501	YECUS1C104KX	Ceramic,0.1MFD 16WV	
C502	YECSW1A106MA	Electrolytic,10MFD 10WV	
C503	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C504	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C510	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C511	YECUS1H820JM	Ceramic,820PF 50WV	
C512	F1H1H820A231	Ceramic,82PF 50WV	
C513	F1H1H820A231	Ceramic,82PF 50WV	
C514	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C901	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C902	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C905	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C906	YECSW1A226MS	Electrolytic,22MFD 10WV	
C907	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C908	ECEV1AA470P	Electrolytic,47MFD 10WV	
C909	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
C910	ECEV1AA470P	Electrolytic,47MFD 10WV	
C911	YECUZ1C104KX	Ceramic,0.1MFD 16WV	
RESISTORS			
MD Servo Block [E-8886]			
R101	ERJ6GEYJ1R0V	Chip,1 ohm 1/10W	
R102	ERJ6GEYJ100	Chip,10 ohms 1/10W	
R103	ERJ3GEYJ222V	Chip,10k ohms 1/16W	
R104	ERJ3GEYJ471V	Chip,470 ohms 1/16W	
R107	ERJ3GEYJ103V	Chip,10k ohms 1/16W	
R108	ERJ3GEYJ683V	Chip,68k ohms 1/16W	
R112	ERJ3GEYJ102V	Chip,1k ohms 1/16W	
R113	ERJ3GEYJ473V	Chip,47k ohms 1/16W	
R114	ERJ3GEYJ272V	Chip,2.7k ohms 1/16W	
R115	ERJ3GEYJ473V	Chip,47k ohms 1/16W	
R116	ERJ3GEYJ473V	Chip,47k ohms 1/16W	
R117	ERJ6GEYJ473	Chip,47k ohms 1/10W	
R118	ERJ3GEYJ223V	Chip,22k ohms 1/16W	
R119	ERJ3GEYJ121V	Chip,120 ohms 1/16W	
R120	ERJ3GEYJ331V	Chip,330 ohms 1/16W	
R121	ERJ3GEYJ331V	Chip,330 ohms 1/16W	

Ref. No.	Part No.	Part Name & Description	Remarks
R201	ERJ3GEYJ513V	Chip,51k ohms 1/16W	
R202	ERJ3GEYJ513V	Chip,51k ohms 1/16W	
R203	ERJ3GEYJ273V	Chip,27k ohms 1/16W	
R204	ERJ3GEYJ273V	Chip,27k ohms 1/16W	
R205	ERJ3GEYJ513V	Chip,51k ohms 1/16W	
R206	ERJ3GEYJ513V	Chip,51k ohms 1/16W	
R207	ERJ3GEYJ273V	Chip,27k ohms 1/16W	
R208	ERJ3GEYJ273V	Chip,27k ohms 1/16W	
R211	ERJ3GEYJ472V	Chip,4.7k ohms 1/16W	
R212	ERJ3GEYJ472V	Chip,4.7k ohms 1/16W	
R225	ERJ3GEYJ472V	Chip,4.7k ohms 1/16W	
R226	ERJ3GEYJ472V	Chip,4.7k ohms 1/16W	
R403	ERJ3GEYJ103V	Chip,10k ohms 1/16W	
R404	ERJ3GEYJ102V	Chip,1k ohms 1/16W	
R405	ERJ3GEYJ103V	Chip,10k ohms 1/16W	
R406	ERJ3GEYJ121V	Chip,120 ohms 1/16W	
R408	ERJ3GEYJ683V	Chip,68k ohms 1/16W	
R409	ERJ3GEYJ103V	Chip,10k ohms 1/16W	
R410	ERJ3GEYJ102V	Chip,1k ohms 1/16W	
R413	ERJ6GEYJ100	Chip,10 ohms 1/10W	
R501	ERJ3GEYJ332V	Chip,3.3k ohms 1/16W	
R502	ERJ3GEYJ332V	Chip,3.3k ohms 1/16W	
R503	ERJ3GEYJ332V	Chip,3.3k ohms 1/16W	
R504	ERJ3GEYJ563V	Chip,56k ohms 1/16W	
R505	ERJ3GEYJ121V	Chip,120 ohms 1/16W	
R506	ERJ3GEYJ121V	Chip,120 ohms 1/16W	
R507	ERJ3GEYJ121V	Chip,120 ohms 1/16W	
R508	ERJ3GEYJ121V	Chip,120 ohms 1/16W	
R509	ERJ3GEYJ561V	Chip,560 ohms 1/16W	
R510	ERJ3GEYJ121V	Chip,120 ohms 1/16W	
R511	ERJ3GEYJ121V	Chip,120 ohms 1/16W	
R512	ERJ3GEYJ121V	Chip,120 ohms 1/16W	
R513	ERJ3GEYJ121V	Chip,120 ohms 1/16W	
R520	ERJ3GEYJ121V	Chip,120 ohms 1/16W	
R522	ERJ3GEYJ121V	Chip,120 ohms 1/16W	
R901	ERJ3GEYJ393V	Chip,39k ohms 1/16W	
R902	ERJ3GEYJ123V	Chip,12k ohms 1/16W	
R903	ERJ6GEYJ222	Chip,2.2k ohms 1/10W	
R904	ERJ3GEYJ103V	Chip,10k ohms 1/16W	
R905	ERJ3GEYJ153V	Chip,15k ohms 1/16W	
R906	ERJ3GEYJ562V	Chip,5.6k ohms 1/16W	
R907	ERJ3GEYJ333V	Chip,33k ohms 1/16W	
R908	ERJ3GEYJ123V	Chip,12k ohms 1/16W	
R909	ERJ3GEYJ682V	Chip,100 ohms 1/16W	
R910	ERJ3GEYJ223V	Chip,22k ohms 1/16W	
CONNECTORS			
MD Servo Block [E-8886]			
CN1	K1KB14B00027	Connector,14P	
CN101	K1KB21B00001	Connector,21P	
ELECTRIC PARTS			

Ref. No.	Part No.	Part Name & Description	Remarks
SWITCHES			
SW1-3	K0L1BA000023	Switch	
CRYSTALS			
XL401	YEXLSTCV169T	Crystal Oscillator	
XL501	YEXLSTCC737T	Crystal Oscillator	
COILS			
L201	YELTBLM1B601	Filter	
L202	YELTBLM1B601	Filter	
L401	YELTBLM1B601	Filter	
L402	YELTBLM1B601	Filter	
L403	YELTBLM1B601	Filter	
L501	EXCCET103U	EMI Filter	
MECHANICAL PARTS			
MISCELLANEOUS			
AT1	YEATSD00405		
1	YEFA011889	Cartrige Holder	(2-A)
2	YEFX0462121	SL Action Plate Ass'y	(2-A)
3	YEFX0462122	Slider	(2-A)
4	YEFX0462126	Link Plate U	(2-A)
5	YEFX0462125	Link Plate L	(2-A)
6	YEFX0031062	Loading Gear D1	(2-A)
7	YEFX0031067	Loading Gear D2	(2-A)
8	YEFX0052537	GND Spring	(2-A) (2-B)
9	YEP0FX410ÇRS	Loading Motor Ass'y	(2-A)
10	YEFX0031061	Loding Gear C	(2-A)
11	YEFX0031060	Loding Gear B	(2-A)
12	YEFX0052521	Shutter Closer	(2-B)
13	YEP0FX4104S	Feed Motor Ass'y	(2-B)
14	YEFX0462131	Shutter Opener	(2-B)
15	YEFS04715	Damper	(2-B)
16	YEFX0462128	Slide Cam Plate R	(2-B)
17	YEFX0052516	Cam Spring	(2-B)
18	YEFX0462124	Link Push Plate	(2-B)
19	YEFX0462129	Cam Plate	(2-B)
20	YEFX0462127	Slide Cam Plate L	(1-A)
21	YEFX0031065	Feed Gear C	(1-A)
22	YEFX0031064	Feed Gear B	(1-A)
23	MFN3GL75BC	Spindle Motor	(1-A)
24	YEP0FX8886A0	Servo Main P.C.B.	(1-A)
25	YEFA011888	Sus Chassis Ass'y	(1-B)
26	YEFX0462123	SW Actuator	(1-B)
27	YEFX0052517	SW Actuator Spring	(1-B)
28	YEFW062630	PU Shaft	(1-B)
29	KLR1100J	Pick Up	(1-B)
30	YEFX0052435	Sub Shaft Spring	(1-B)
31	YEFX0031066	Feed Rack	(1-B)
32	YEFX0052514	PU Shaft Spring	(1-B)
33	YEFA011890	Main Chassis	(1-B)

Ref. No.	Part No.	Part Name & Description	Remarks
101	YEJE01028	E Ring,S1.5	
102	YEFX014078	Retaining Ring,1.55*5*0.5mm	
103	YEJS06252	Screw,M1.4*1.8mm	
104	YEJS06249	Screw,M11.2*1.8mm	
105	YEJS06250	Screw,M1.7*1.2mm	
106	YEJS06248	Screw,M1.2*2.2mm	
107	YEJS06253	Screw,M1.4*5mm	
108	YEJS06250	Screw,M1.7*2mm	
109	YEJT03270	Screw,M2*5mm	

15. EXPLODED VIEW (MD Deck)



16. WIRING DIAGRAM

16.1. Interface / Front SW Block

16.2. Main Block (Top View)

16.3. Main Block (Bottom View)

16.4. Display Block [CQ-MR505N]

16.5. Display Block [CQ-MR303N]

16.6. MD Servo Block

17. SCHEMATIC DIAGRAM -1

17.1. Main Block

17.2. Display Block [CQ-MR505N]

17.3. Display Block [CQ-MR303N]

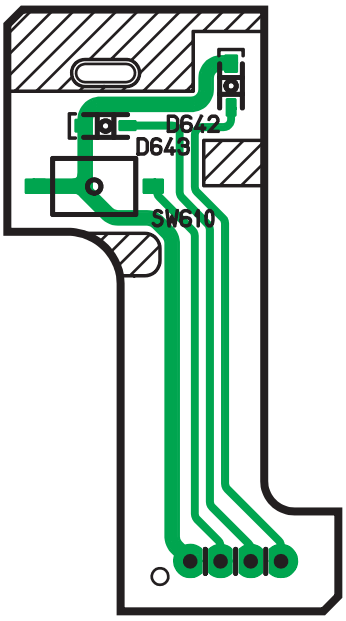
17.4. MD Servo Block

18. SCHEMATIC DIAGRAM -2

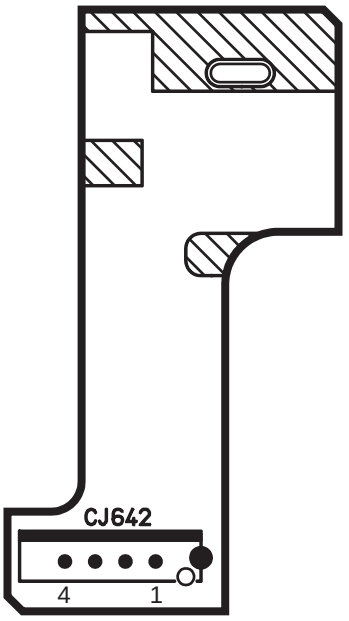
18.1. Interface / Front SW Block

E-868 / Printed in Japan / 2000.4 (K)

[E-8496Ab]

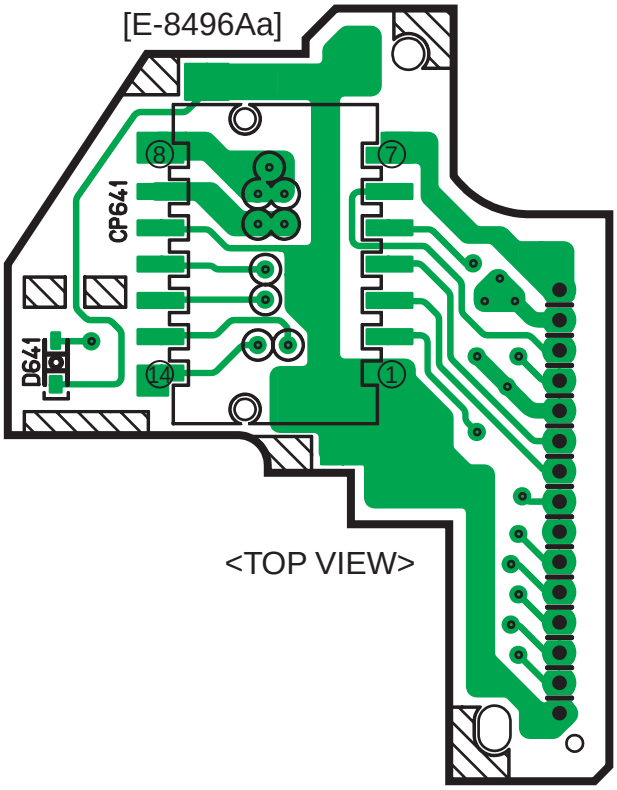


<TOP VIEW>

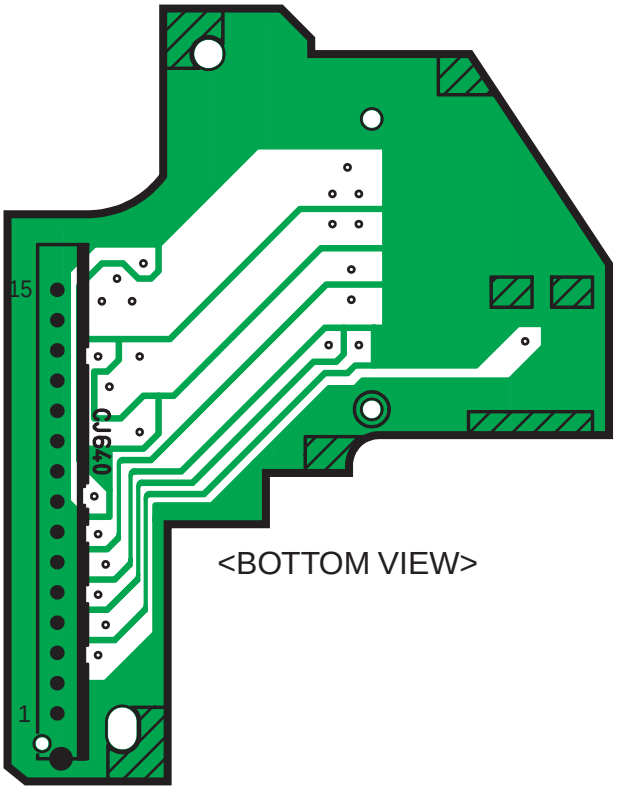


<BOTTOM VIEW>

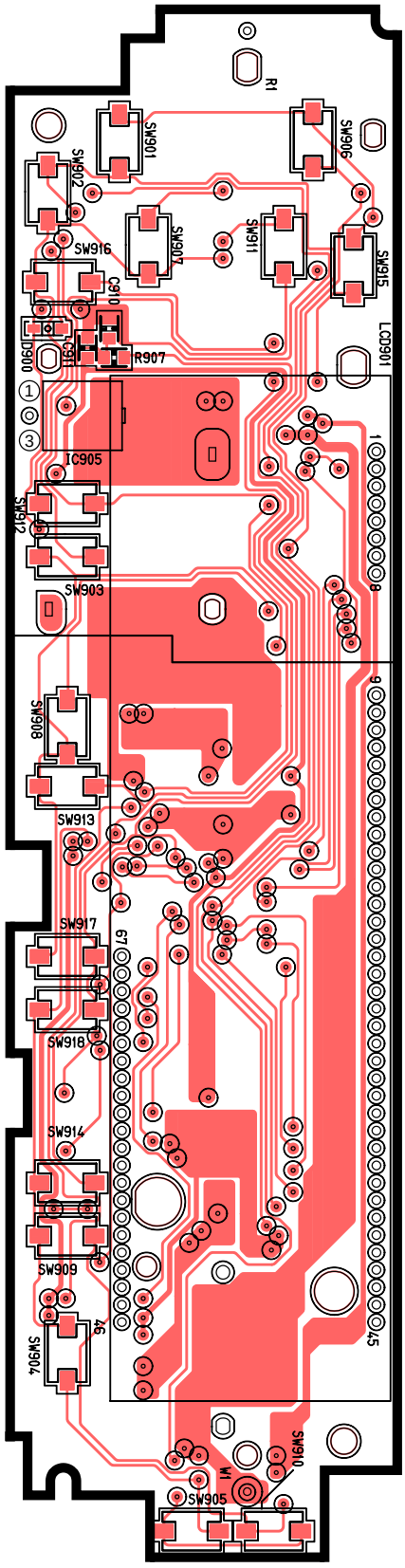
[E-8496Aa]



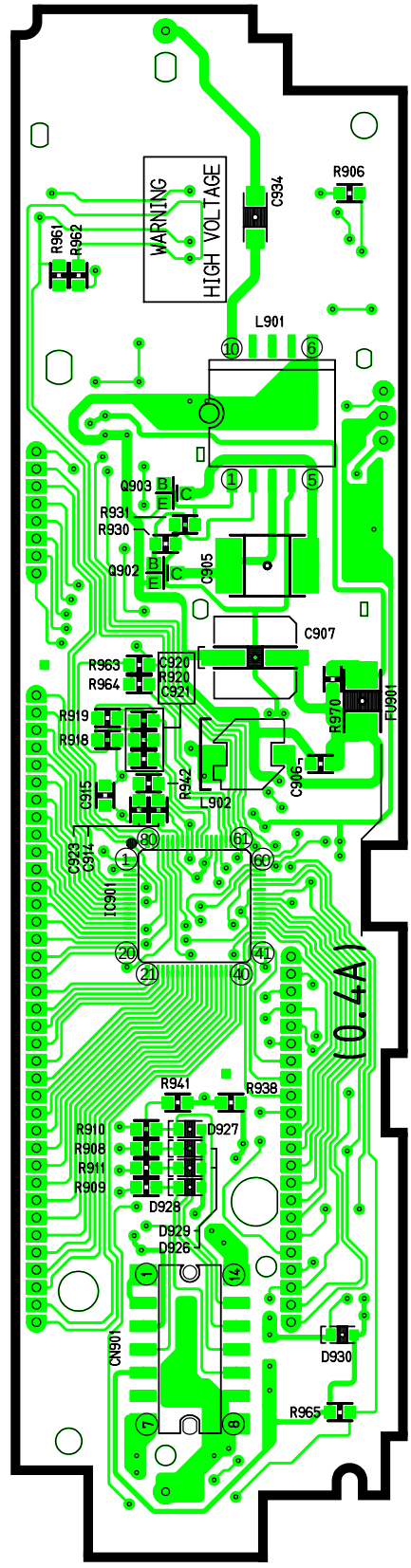
<TOP VIEW>



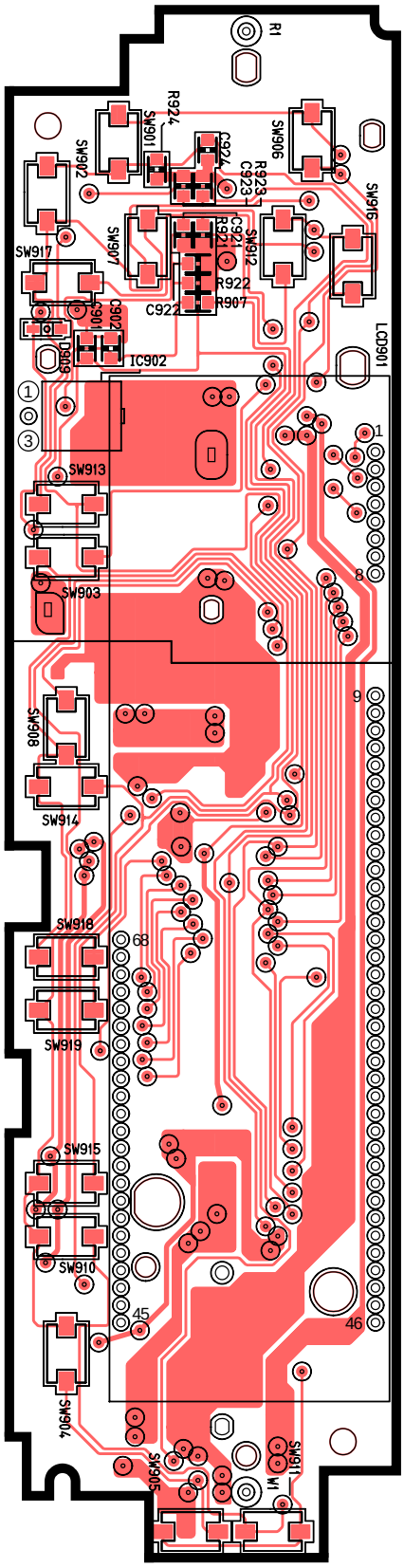
<BOTTOM VIEW>



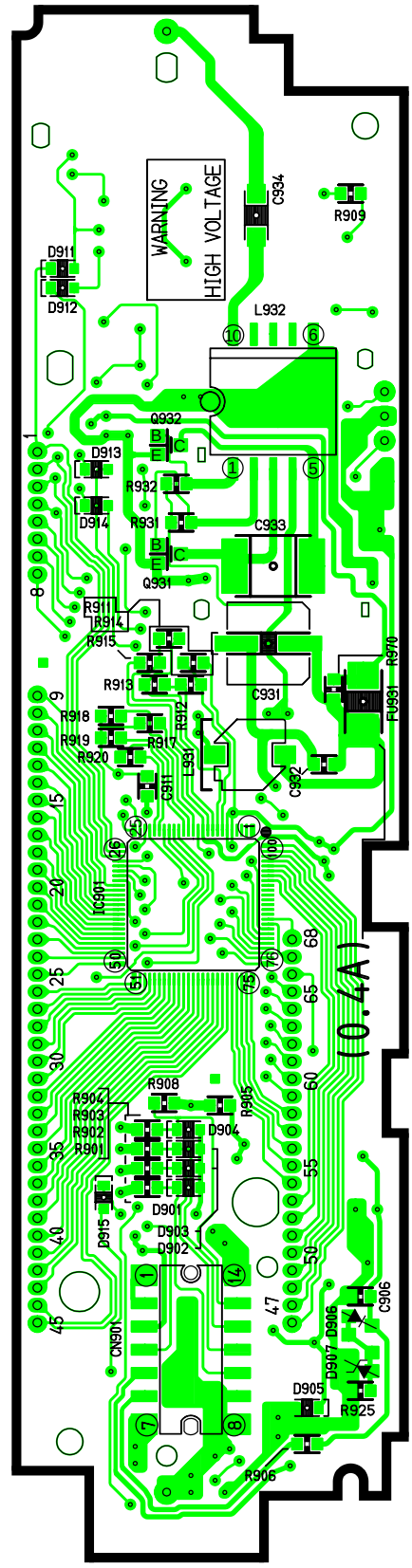
[E-8801A]
[Top View]



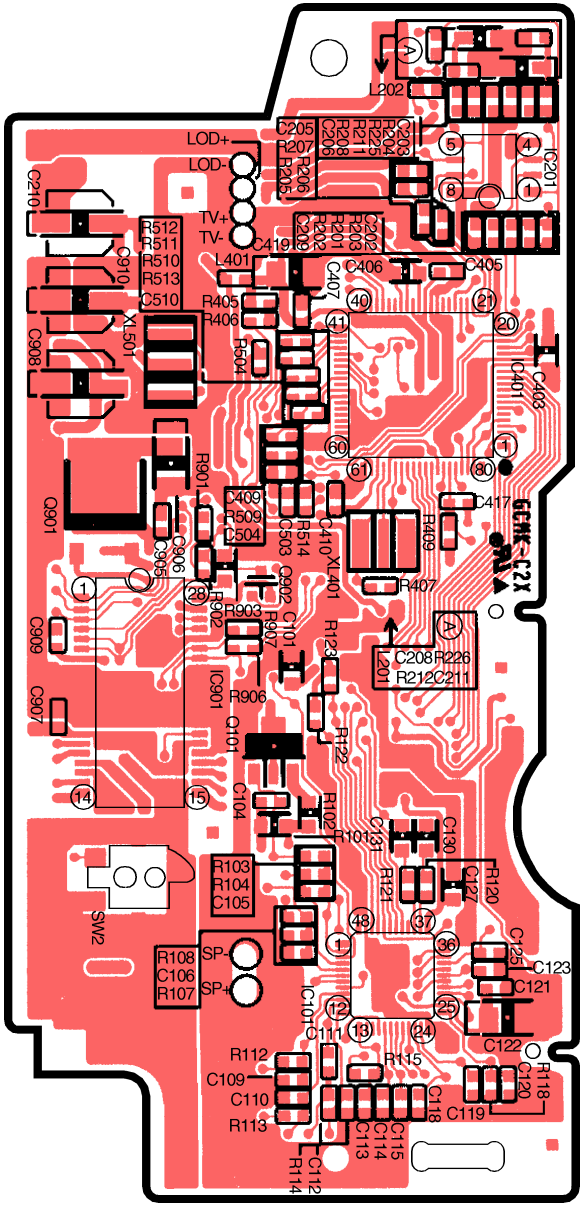
[E-8801A]
[Bottom View]



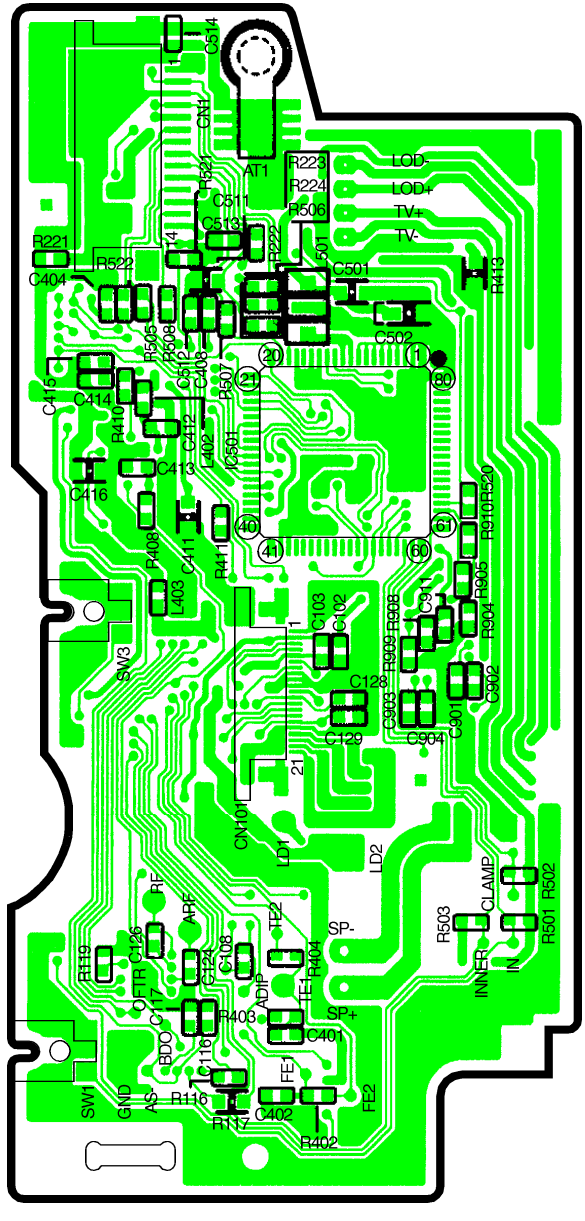
[E-8802A]
[Top View]



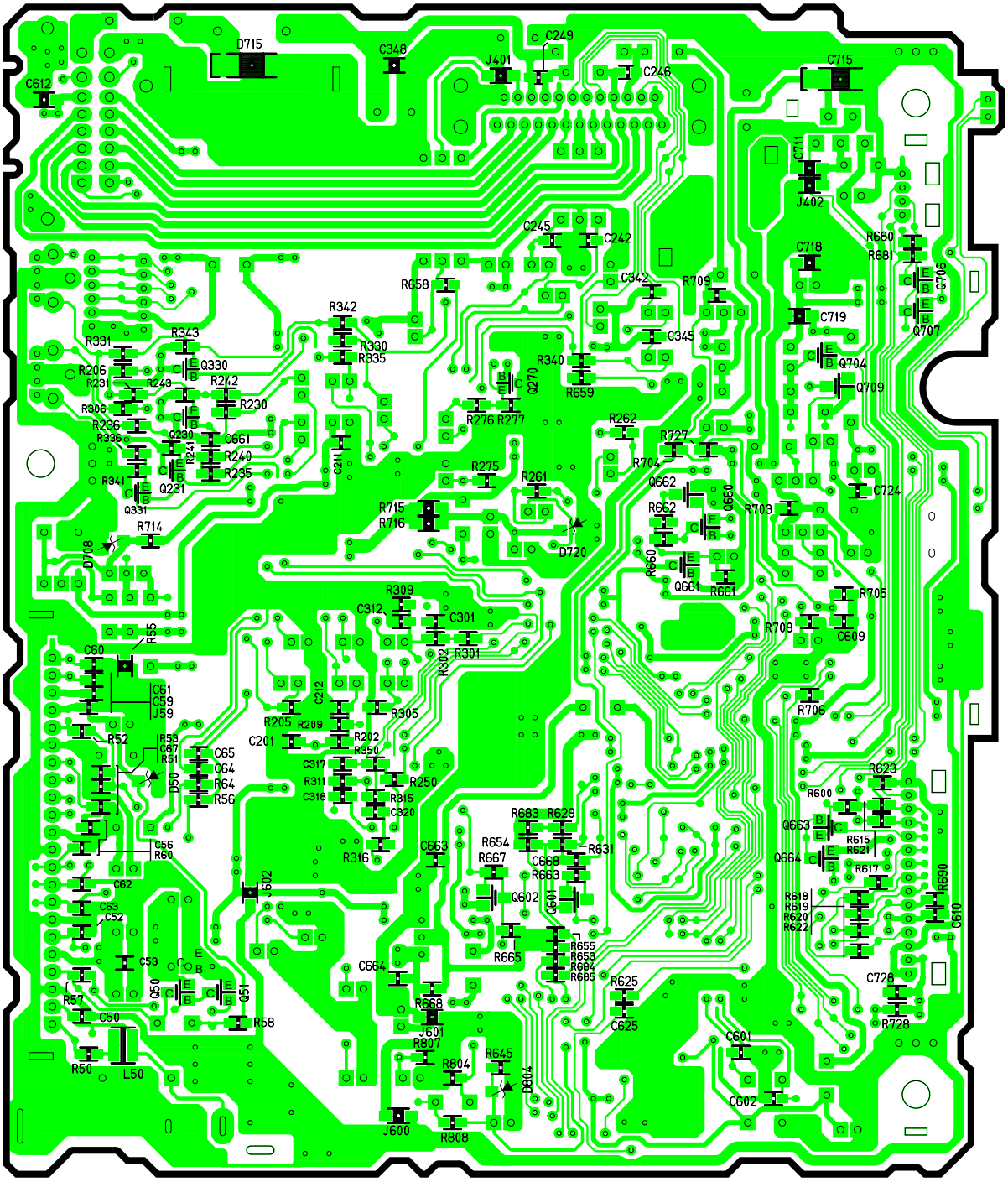
[E-8802A]
[Top View]



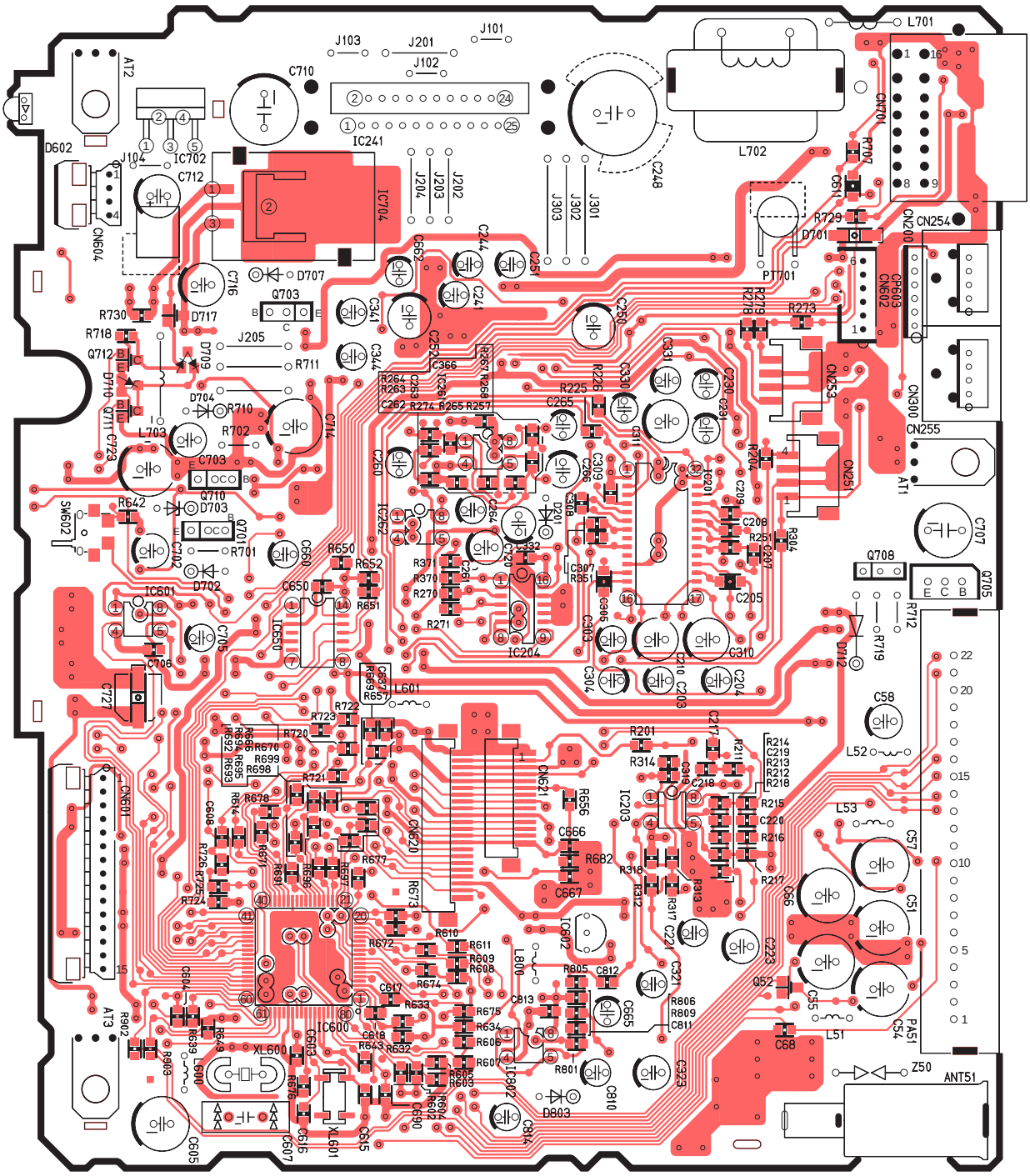
[E-8886][Top View]



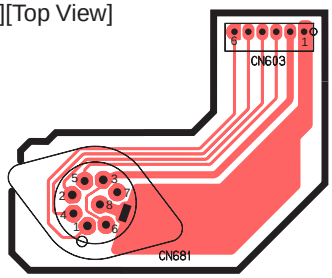
[E-8886][Bottom View]



[E-6788Ba][Bottom View]



[E-6788Ba][Top View]

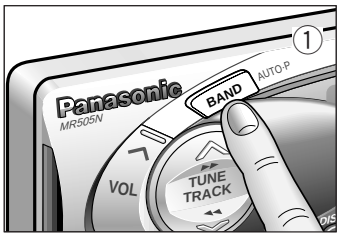


[E-6788Bc][Top View]

Station Preset

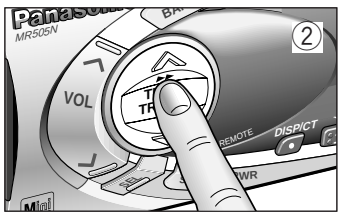
FM1, FM2, FM3 and AM (LW/MW) can save maximum 6 stations each in their preset station memories.

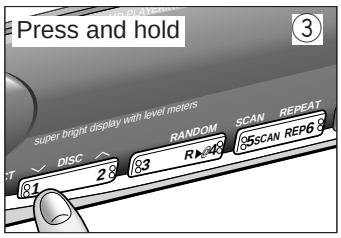
Caution: To ensure safety, never attempt to preset stations while you are driving.



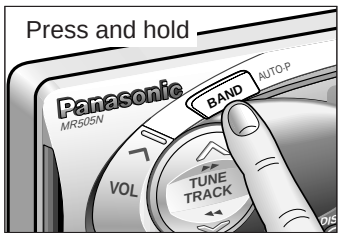
Manual Station Preset

① Press **[BAND]** to select a desired band.
② Use manual or seek tuning to find a station which is to be preset in the memory.
③ Press and hold one of the preset buttons **[1]** to **[6]** for more than 2 seconds until the display blinks once.





Note: You can change the memory setting by repeating the above procedure.

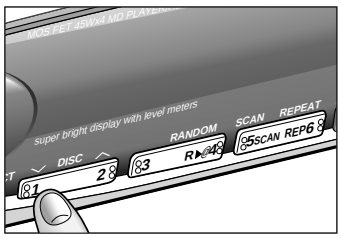


Auto Station Preset

Select the band, press and hold **[BAND]**(AUTO • P) for more than 2 seconds (Auto Preset Memory).

- The 6 strongest available stations will be automatically saved in the memory on preset buttons **[1]** to **[6]**.
- Once set, the preset stations are sequentially scanned for 5 seconds each.

Note: The stations manually preset on the selected band will be deleted.



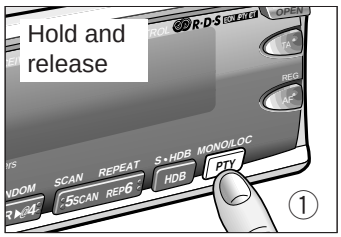
Tuning in a Preset Station

Press the corresponding preset buttons **[1]** to **[6]** to tune in a preset station.

Radio Basics (continued)

MONO/LOCAL Selection

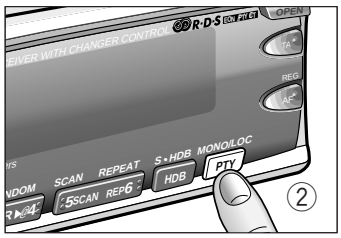
- At the MONO setting, noise is significantly decreased when weak signals are received from an FM broadcast station.
- At the LOCAL setting, only strong signals of stations are searched in seek tuning, while at the LOCAL OFF setting, relatively weak signals are also searched.



① FM Broadcasts

Press and hold **[PTY]**(MONO/LOC) to change the mode until the desired mode is reached, then release it.

MONO OFF LOCAL OFF → MONO ON LOCAL OFF → MONO ON LOCAL ON → MONO OFF LOCAL ON



② AM Broadcasts

Press **[PTY]**(MONO/LOC) to switch the Local mode as follows.

LOCAL OFF ⟷ LOCAL ON

RDS (Radio Data System) Reception

Many FM stations are broadcasting added data compatible with RDS. This radio set offers convenient functions using such data.

AF (Alternative Frequency)
When receiving condition becomes poor, an RDS station with the same program will be automatically selected.

EON (Enhanced Other Networks)
When EON data is received, the EON indicator lights and the TA and AF functions are expanded.
TA: Traffic information from not only the station now tuned in to but also other network stations can be received.
AF: The frequency list of the RDS stations preset by received EON data is updated.

PS (Program Service Name)
When an RDS station is received, the name of that station automatically displays instead of the frequency. When **[•]**(DISP/CT) is pressed during PS display, the frequency appears on the display for 3 seconds, then PS display returns.

PI (Program Identification)
If a preset RDS station is poor in receiving condition when it is selected, the automatic seek (PI Seek) starts to seek the same program and tune in to it.

PTY (Program Type)
Program type identification signal
Example : News, rock, classical music, etc.

TA (Traffic Announcement)
When an FM station that periodically provides the latest traffic information is received, the TP indicator lights. If TA ON is set, FM traffic information automatically interrupts your listening to a MD or CD changer until it ends, then you will listen again to whatever you have been listening to.

Best Station Research
If a preset RDS station is in poor condition of reception when you try to tune in to it, the best frequency is selected from the AF list of that station.

REG (Region)
The AF, Best Station Research, PI Seek functions will be as follows:
REG ON : The frequency changes only with the same regional program. This function is mainly used while driving in the same area, for example, in a city.
REG OFF: The frequency changes even with a different regional program if the station is in the same network. The broadcast may be different depending on the case. This function is mainly used when driving far from one region to another.

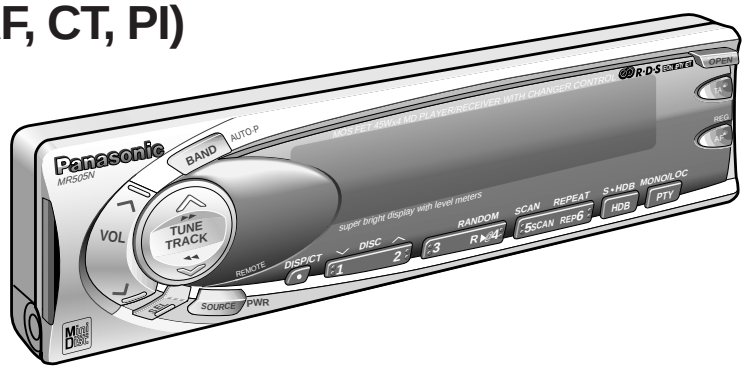
What Provides EON Capabilities

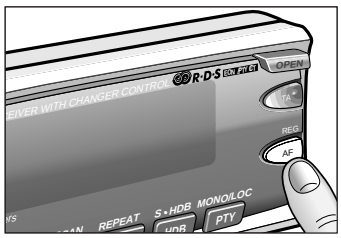
EON lets the radio set take advantage of RDS information much more than before. It constantly updates the AF list of all presets, including the station currently tuned in to. So, even if you change preset far from home, you will be able to receive the same station at an alternative frequency, or another station serving the same program if any. EON also keeps track of locally available TP stations for quick reception.

Note: When you're in **AF ON** mode, auto preset memory only works for RDS station. When in **TA ON** mode, it only works for TP stations. To make auto preset for ordinary stations, cancel AF mode and change to TA off in advance.

RDS (Radio Data System) Reception (continued)

A. Basic Operation in RDS Reception (PS, AF, CT, PI)



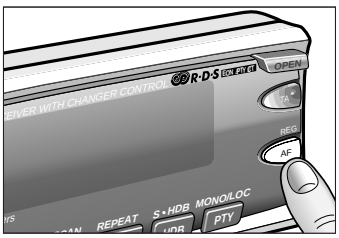


RDS Reception

Press **[AF]** when receiving a station in the FM1, FM2 or FM3 band.

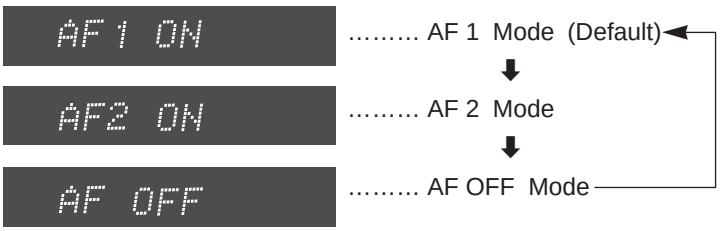
- AF ON/OFF can be set common to all FM bands.

- Select AF ON if you wish to use the AF network of an RDS station. Best station research is activated at the same time.
- Select AF OFF if the AF network of an RDS station is not necessary.



Changing AF Mode

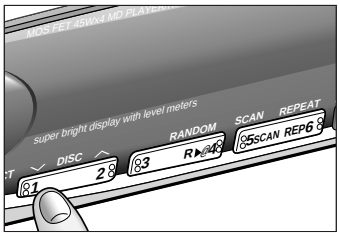
Press **[AF]** to change AF ON and activate Best Station Research at the same time. (3 seconds maximum)



Notes:

1. Default mode is AF1.
2. AF1 has a low level of AF operating sensitivity in urban areas. Therefore, AF does not frequently operate even when sensitivity is temporarily lowered between skyscrapers, for example.
3. AF2 is for suburban areas with a higher level of sensitivity than AF1.

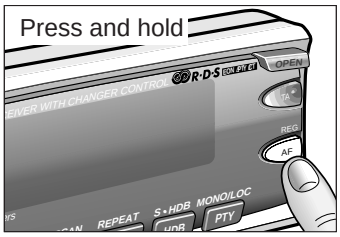
For Seek Tuning, RDS Station Preset, Tuning in a RDS preset station, and Auto RDS Station Preset, please refer to Radio Basics (pages 16 to 18).



RDS seek tuning (PI seek)

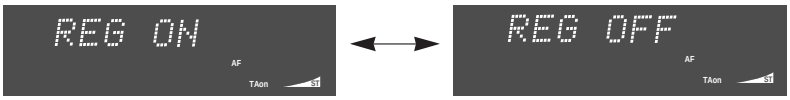
The PI seek function may be used if an RDS station selected from the memory is poor in receiving condition. Press the preset button again for the station now tuned in to.

PI Seek: If Best Station Research fails in selecting the best station, the PI seek function operates to automatically tune in to the same program.

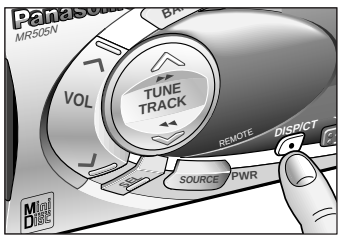


Region (REG) Switching

Press and hold **[AF]**(REG) for more than 2 seconds in AF mode to alternately select between REG ON and REG OFF.

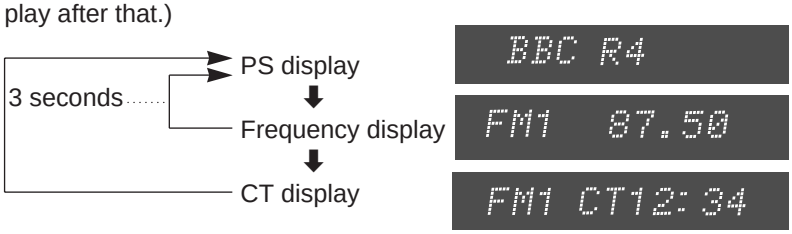


Note: If you wish to stay with the same program, keep REG ON. In REG OFF mode, there is a higher possibility of returning to an AF station in better receiving condition. The relationship of the PI seek function with REG ON and REG OFF is as described above.



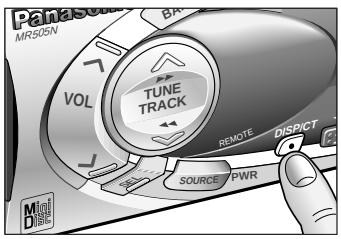
Changing Display

Press **[•]**(DISP/CT) to change the display as follows.
(Frequency display continues for only 3 seconds, returning to PS display after that.)



Clock Time (CT) System

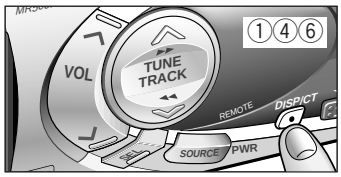
The CT (24-hour) system may not properly operate in areas where RDS CT service is not available. Once CT service is received, the CT system keeps operating. “NO CT” appears on the display in areas where no CT service is available.

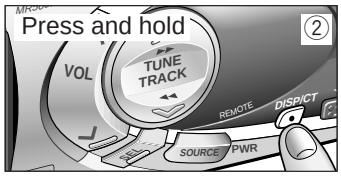


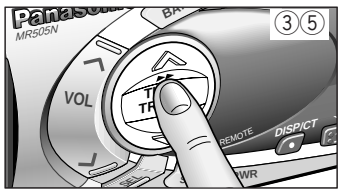
Clock Display

Press **[•]**(DISP/CT) to indicate the clock display.

RDS (Radio Data System) Reception (continued)







Initial Time Setting

Press **[BAND]** to change to AM mode.

① Press **[•]**(DISP/CT), " NO CT" appears on the display.

② Press and hold **[•]**(DISP/CT) again for more than 2 seconds, "hours" blinks and the time setting mode is activated.

③ To set hours, press **[∧TUNE]** or **[∨TUNE]**.
Hold **[∧TUNE]** or **[∨TUNE]** to change numbers rapidly.

④ Press **[•]**(DISP/CT) again for minutes setting.

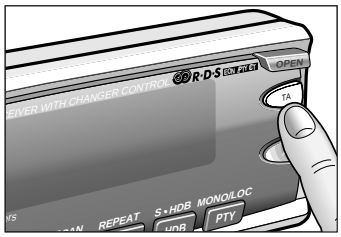
⑤ To set minutes, press **[∧TUNE]** or **[∨TUNE]**.

⑥ After setting the time, press **[•]**(DISP/CT).

Notes:

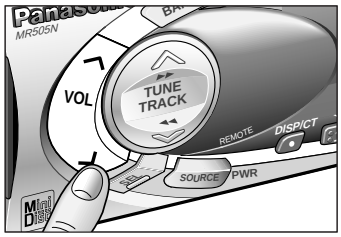
- If CT display is kept on, it remains on even if **[SOURCE]**(PWR) and accessory are turned off and back on again.
- In other modes, press **[•]**(DISP/CT) to get RDS CT-service.

B. TP Reception



Select Traffic Announcement (TA on) Mode

Press **[TA]** to switch on and keep it there when you wish to listen to traffic information. Press **[TA]** again to switch off.



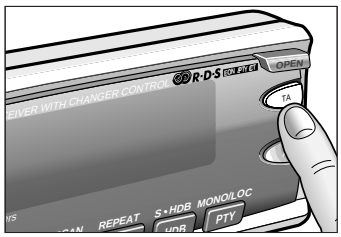
Volume Setting (Only for TA on mode)

Adjust the volume as desired by pressing **[∧VOL]** or **[∨VOL]** while receiving Traffic Announcement. (TA)

After volume for Traffic Announcement (TA) is set, the difference between normal volume and TA volume is automatically stored in the memory (up to 5 levels) so that next traffic information will be received at the preceding TA volume which may be higher or lower than normal volume.

Normal volume can be changed up to 5 levels upward or downward.

If the volume level is over 40 or less than 0, any further change will not be made.

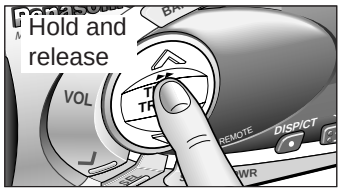


When receiving a station other than TP station (including EON stations)

A traffic information station is automatically searched for and the radio automatically stops tuning at the next available TP station.

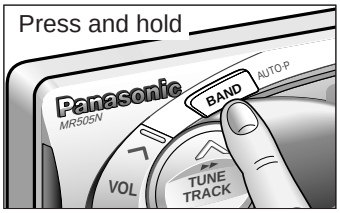
EON Capabilities:

EON lets the radio take advantage of much more RDS information than before. It constantly updates the AF lists for all switch presets far from home, you will receive an alternative frequency for the same station, or another station carrying the same program, when such exists. EON also keeps track of locally available TP station.



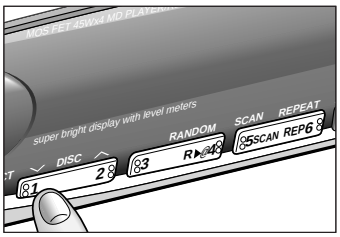
TP Seek Tuning

Press and hold **[∧TUNE]** or **[∨TUNE]** for more than 0.5 seconds, then release. The seeking automatically stops at the next available TP station.



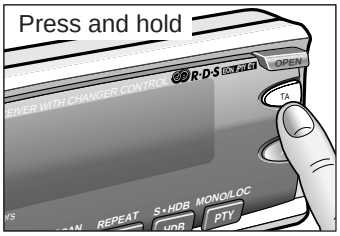
Auto TP Station Preset

Press and hold **[BAND]**(AUTO•P) for more than 2 seconds. The six strongest available TP stations are automatically saved in the memory on the preset button **[1]** to **[6]**.
Once saved, the preset stations are sequentially scanned for 5 seconds each.



Tuning in a TP station preset

Press any of the preset buttons **[1]** to **[6]** that you want to listen to. Best Station Research function is activated to automatically select the strongest available frequency for the TP station (through the built-in frequency) lists, if reception is weak.



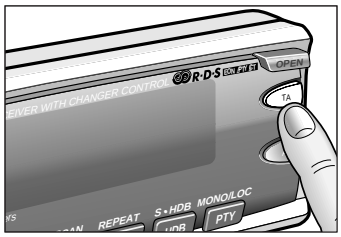
Muting TA on

Press and hold **[TA]** for more than 2 seconds to light “TA on”.
Then Traffic Announcement (TA) function is activated to operate, allowing you to listen to only Traffic Program whenever it is available.

Muting TA on canceling (Muting TA on → TA on)
Press **[TA]** again.
Or press **[∧VOL]** to increase the volume level.

TP Auto Search

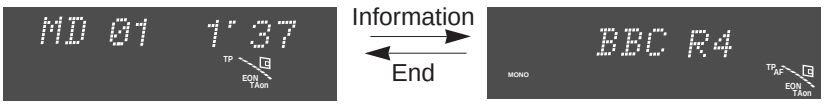
If receiving conditions are poor when TA is on during muting and if there is no other alternative frequency in the same network, a traffic announcement station in good receiving condition is automatically searched for.

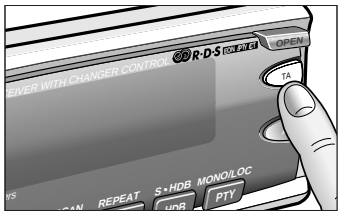


MD/CD Changer TA on

Press **[TA]** during MD, CD changer mode.
When TA on mode is selected while listening to the source in that mode, wait for Traffic Announcement to begin.

<MD>





Switching to TA off Mode

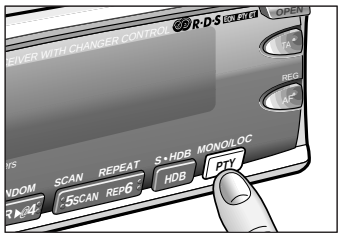
Select either one of the following steps.

- Press **[TA]** when TA is on.
- Press and hold **[TA]** for more than 2 seconds when Muting TA is on.
- Press **[TA]** when MD/CD changer TA is on.

RDS (Radio Data System) Reception (continued)

C. PTY Reception

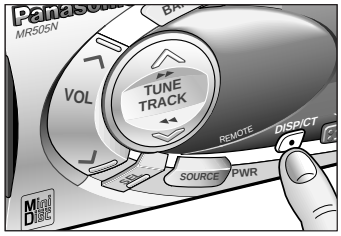
(There are some areas where PTY service may not be available.)



Switching to PTY Mode

Press **[PTY]** to select PTY display mode, and the PTY of the broadcast now received is displayed.

"NO PTY" appears on the display if there is no corresponding program type.



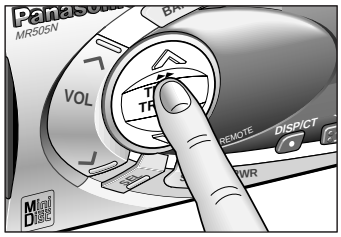
Changing PTY Display Language

The display language can be changed to swedish as required.
Press **[•]**(DISP/CT) in PTY mode to alternate the language between English and Swedish.

<English>

Press **[•]**(DISP/CT)

<Swedish>



Program Type Selection

Press **[∧TUNE]** or **[∨TUNE]** to select the program type as follows.

SPEECH – MUSIC – NEWS – AFFAIRS – INFO – SPORT – EDUCATE – DRAMA – CULTURES – SCIENCE – VARIED – POP M – ROCK M – M.O.R.M – LIGHT M – CLASSICS – OTHER M – WEATHER – FINANCE – LEISURE – TRAVEL – PHONE IN – RELIGION – SOCIAL A – CHILDREN – JAZZ – COUNTRY – NATIONAL – OLDIES – FOLK M – DOCUMENT

When a desired selection has been made, press **[BAND]**. Then automatic seek will start to tune into the station broadcasting the selected program type.

Note: Seek tuning does not operate as long as "NO PTY" appears on the display.

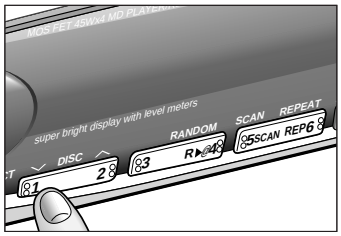
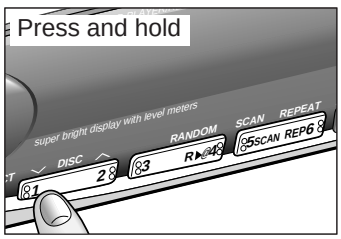


Table of PTY Code and Program Type

Press any of the preset buttons **[1]** to **[6]** according to your preference. Those buttons already have the program types as follows. (Default setting)

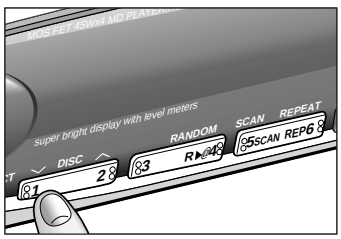
<Preset PTY>

Preset No.	1	2	3	4	5	6
Program Type	News	Speech	Sport	Pop. Music	Classics	Music
Display	NEWS 1	SPEECH 2	SPORT 3	POP M 4	CLASSICS 5	MUSIC 6
	NEWS	AFFAIRS INFO EDUCATE DRAMA CULTURES SCIENCE VARIED WEATHER FINANCE CHILDREN SOCIAL A RELIGION PHONE IN TRAVEL LEISURE DOCUMENT	SPORT	POP M	CLASSICS	ROCK M M.O.R.M LIGHT M OTHER M JAZZ COUNTRY NATIONAL OLDIES FOLK M



Program Type Preset

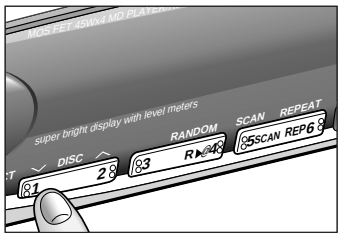
Press and hold one of the buttons **[1]** to **[6]** for more than 2 seconds to preset the desired program type selection in the button.



Tuning in a PTY Preset Station

Press any of the preset buttons **[1]** to **[6]** that you want to listen to.

RDS (Radio Data System) Reception (continued)



Searching for PTY

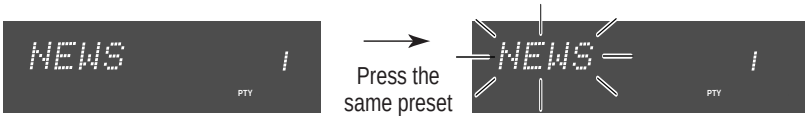
① Select the desired station from preset in the preset number buttons **[1]** to **[6]**. Then, the preset PTY and that preset number appear on the display for 5 seconds.

② While the desired type from 6 presets appears on the display, take either of the following two steps.

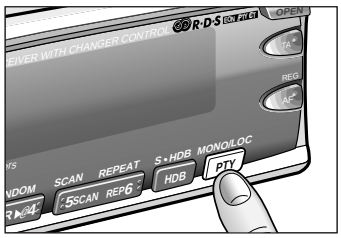
a) Press the same preset button again.

b) Press **[BAND]**.

If the desired PTY station is available, it is directly received. If it is not, “NO PTY” blinks and the radio returns to the station that was received before the search.



Press the same button again to cancel.



Canceling of PTY Mode

Press **[PTY]** to cancel.

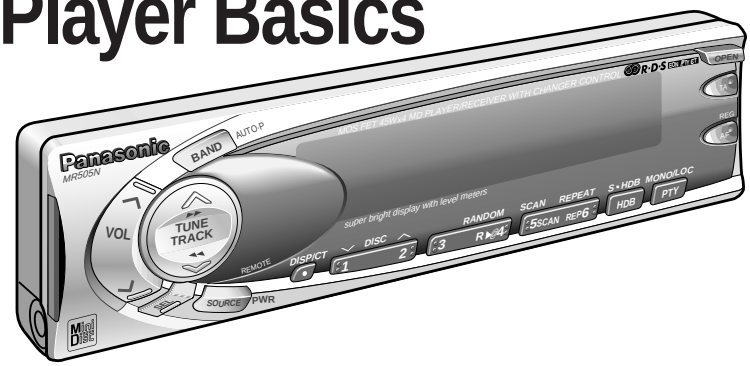
The set returns to the state existing before PTY mode while the receiving frequency remains unchanged.

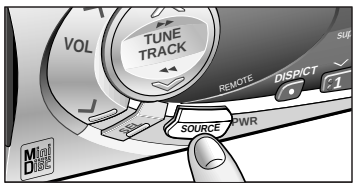
Emergency Announcement Reception

(Some areas are not covered by emergency announcement service.)

When an emergency announcement is broadcast, the unit is automatically switched to receiving that broadcast. If this happens in a mode other than radio mode (MD mode and CD Changer mode) or in Muting in TA mode, “ALARM” blinks on the display.

Mini Disc Player Basics





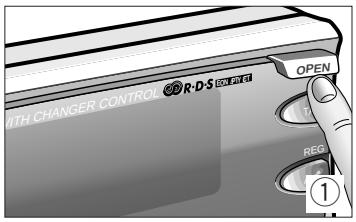
Mode Selection

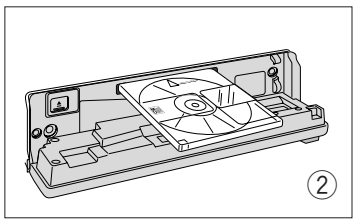
When a disc is in the deck, press **[SOURCE]** to change the source as follows.

Radio → MD (When a disc is inserted) → CD Changer Control (When a CD changer is connected) → Radio

Track Number

Play Time





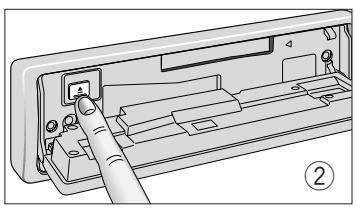
Disc Insert

① Press **[OPEN]** to open the front panel.
② With the label side up, insert the disc.
Close the front panel manually, and playback starts automatically.

> **Caution:** When the front panel is opened, do not force it down and do not put anything on it since these may result in damage to the unit.

Note: While a disc is inserted, no sound is heard (MUTE). And the volume is back to the previous level when the front panel is closed completely.

Note: When a disc is in the deck, the disc indicator will light.

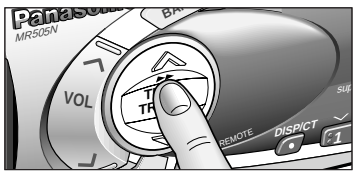


Disc Eject

① Press **[OPEN]** to open the front panel.
② Press **[⏏]** to stop disc play, and the disc will be ejected automatically. Remove it from the MD slot, and close the front panel manually.

> **Caution:** When ejecting a disc, do not close the front panel until the disc is ejected and removed from the disc slot completely.

Note: While the disc is ejected, no sound is heard (MUTE). And the volume is back to the previous level when the front panel is closed completely.



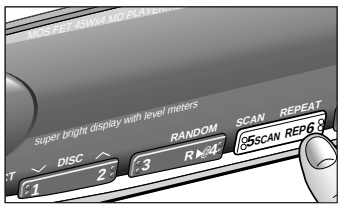
Track Selection

- Press **[►►TRACK]** once to go to the next track.
- Press **[◄◄TRACK]** once to play from the beginning of the track you are listening to. Press twice to play the previous track.
- Press repeatedly to skip the desired number of tracks.

Mini Disc Player Basics (continued)

Track Search

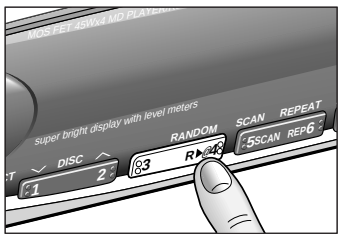
- Press and hold **[►►TRACK]** or **[◄◄TRACK]** for more than 0.5 seconds to activate fast forward or reverse.
- Release **[◄◄TRACK]** or **[►►TRACK]** to resume the normal MD play.



Track Repeat

- Press **[6]**(REP) to repeat the current selection.

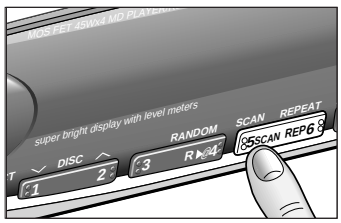
- Press **[6]**(REP) again to cancel.



Random Selection

- Press **[4]**(R ►). A random selection of music is played from all available tracks.

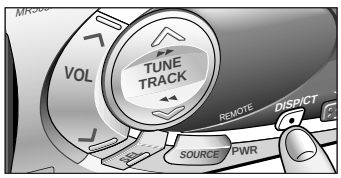
- Press **[4]**(R ►) again to cancel.



Track Scan

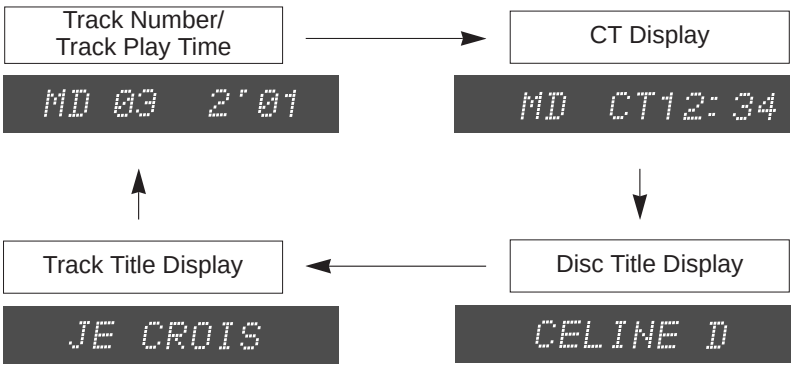
- Press **[5]**(SCAN). The display will blink and the first 10 seconds of each track on the disc play in order.

- Press **[5]**(SCAN) again to cancel.



Changing the Display

Press **[•]**(DISP/CT) to change the display as follows.

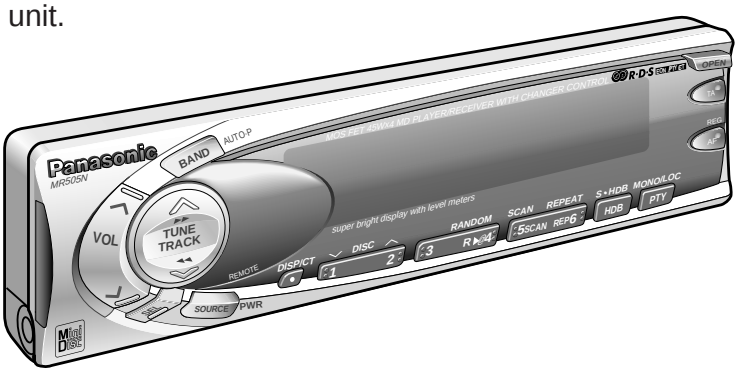


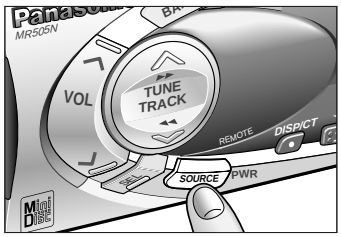
When **[•]**(DISP/CT) is pressed for more than 2 seconds while the Track Title or Disc Title appears on the display, the Title display scroll can be switched on or off. (**Default:** the Title display scroll on)

CD Changer Basics

When the unit is connected with a CD text recognizable CD changer (CX-DP9061EN, for example), CD text can appear on the display.

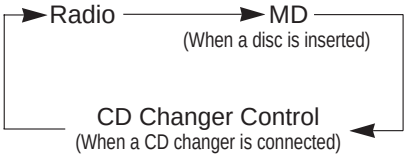
Note: CD changer functions are designed for an optional CD changer unit.

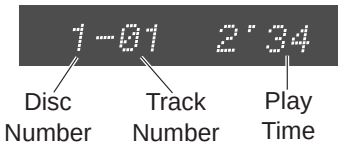


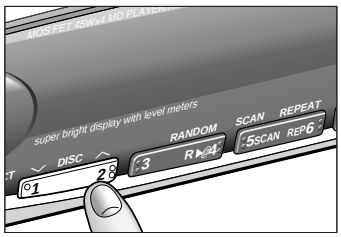


Starting the CD Changer

Once the CD changer has been connected, press **[SOURCE]** to change to the CD changer mode as follows. When a disc magazine is inserted, CD play starts automatically.





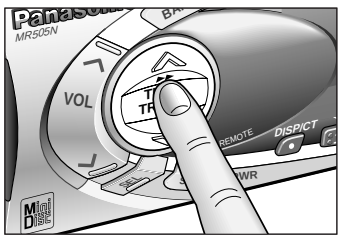


Disc Selection

Press **[1]**(∨DISC) or **[2]**(∧DISC) to select a disc in descending or ascending order.

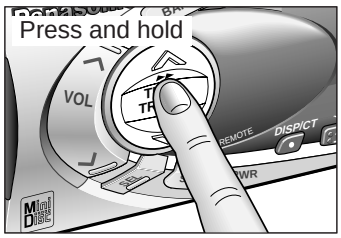
Then, the selected disc will start to play from the first track.

Note: The number of discs you can load the CD changer with is specific to each model.



Track selection

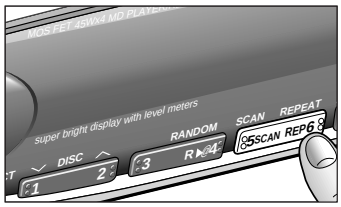
- Press **[►►TRACK]** to advance to the next track.
- Press **[◄◄TRACK]** to start play from the beginning of the track now playing.
- Press **[►►TRACK]** or **[◄◄TRACK]** repeatedly to skip the desired number of tracks.



Track Search

- Press and hold **[►►TRACK]** or **[◄◄TRACK]** for more than 0.5 seconds to activate fast forward or reverse.
- Release **[►►TRACK]** or **[◄◄TRACK]** to resume regular CD changer play from the released position.

CD Changer Basics (continued)



Track Repeat

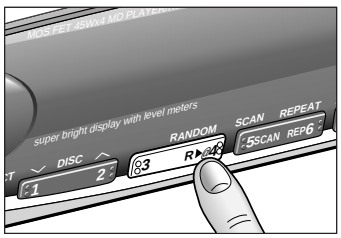
- Press **[6]**(REPEAT) to repeat the current selection.

- Press **[6]**(REPEAT) again to cancel.

Disc Repeat

- Press and hold **[6]**(REPEAT) for more than 2 seconds to repeat the current disc selection.

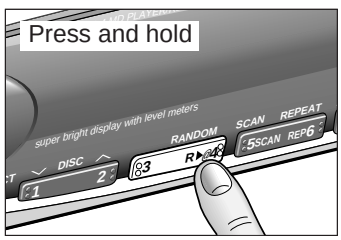
- Press **[6]**(REPEAT) again to cancel.



Track Random

- Press **[4]**(RANDOM). All the available tracks on all discs in the magazine will be played in a random sequence.

- Press **[4]**(RANDOM) again to cancel.

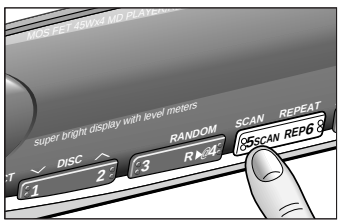


Disc Random

- Press and hold **[4]**(RANDOM) for more than 2 seconds. All the available tracks on the current disc will be played in a random sequence.

- Press **[4]**(RANDOM) again to cancel.

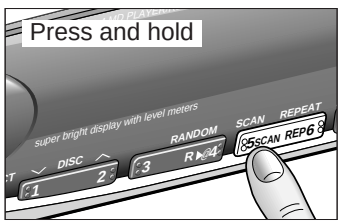
Note: When **[6]**(REPEAT) is pressed in the random mode, random play stops and repeat play starts.



Track Scan

- Press **[5]**(SCAN). The display blinks and the first 10 seconds of each track on the discs play in sequence.

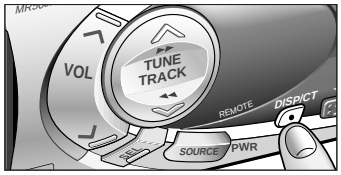
- Press **[5]** (SCAN) again to cancel.



Disc Scan

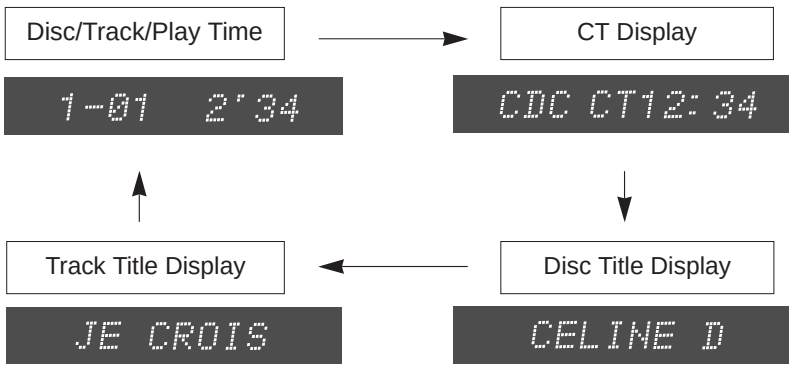
- Press and hold **[5]**(SCAN) for more than 2 seconds. The 1st track of all the discs in the magazine is played for 10 seconds each.

- Press **[5]**(SCAN) again to cancel.



Changing the Display

Press **[•]**(DISP/CT) to change the display as follows.



When **[•]**(DISP/CT) is pressed for more than 2 seconds while the Track Title or Disc Title appears on the display, the Title display scroll can be switched on or off. (**Default:** the title display scroll on)

Notes:

- Track title or disc title appears on the display only when the unit is connected to a CD changer that can recognize CD text (CX-DP9061EN, for example).
- "NO TITLE" appears on the display if a disc which does not support the text display has been loaded.

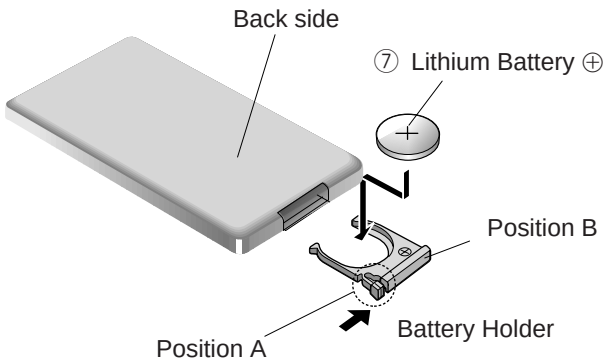
Error Display Messages for MD Player/CD Changer

E1	Displays when the mini disc or compact disc is dirty. In case of MD, the mini disc is ejected automatically. In case of CD changer, the compact disc is skipped and the next disc is selected.
E2	Displays when mini disc or compact disc is scratched. The disc is ejected automatically.
E3	Displays when the mini disc or compact disc stops operating for some reason. Please eject the MD or CD. If the error message E3 is still displayed, please turn off the car engine (ACC off) and remove the fuse from the battery lead (yellow) for 1 minute. Then reinstall the fuse.
0000	Displays when there is no compact disc in the magazine. (This message is only for CD Changer.)

Remote Control Basics

Battery Installation

1. Remove the battery holder.
   Take hold of the holder at position B and pull it out by pushing position A in the direction shown by the arrow.
2. Install the battery on the battery holder.
   Set a new battery properly with its (+) side facing up as shown in the figure.
3. Insert the battery holder.
   Push in the battery holder back into its original position.



Battery Notes

Remove and dispose of an old battery immediately.
Battery Information:

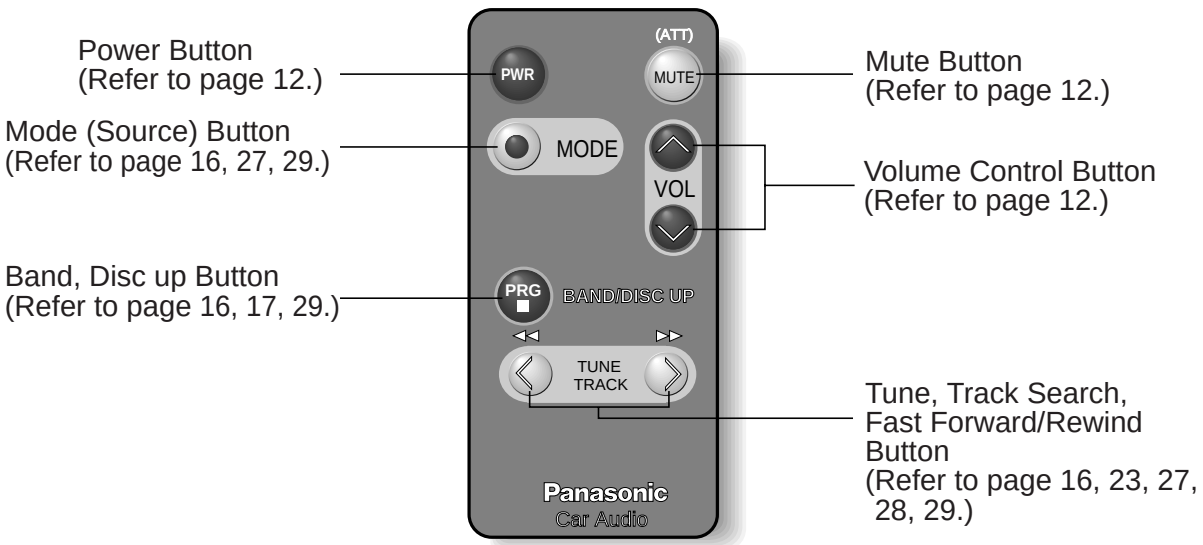
- Battery Type: Panasonic Lithium Battery (CR2025)
- Battery Life: Approximately 6 months under normal use (at room temperature)

Caution: Improper use of batteries may cause overheating, an explosion or ignition, resulting in injury or a fire. Battery leakage may damage the unit.

- Do not disassemble or short the batteries. Do not throw the batteries into a fire.
- Keep batteries away from children to avoid the risk of accidents.
- Be careful to the disposal rules when you dispose of batteries.

Main Controls

For details of each function, refer to the pages in parentheses. Some of the functions may not be usable even if they are shown.



Anti-Theft System

This unit is equipped with a removable face plate. By removing this face plate, the radio becomes totally inoperable. The security indicator will blink.

To Remove the Removable Face Plate

① Switch off the power.
② Press **[OPEN]**. The face plate will be opened.

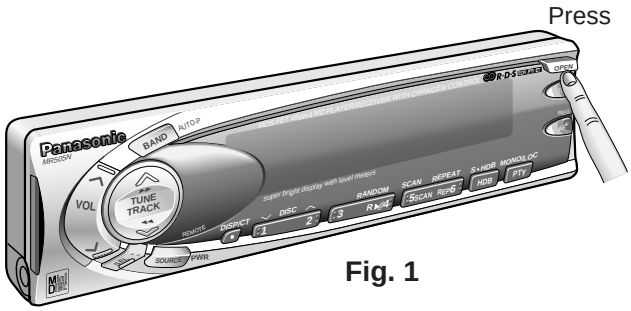


Fig. 1

③ Push the face plate to either the right or left, then pull it out toward you.

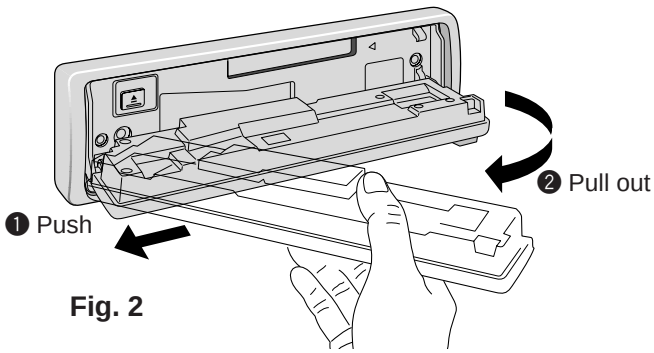


Fig. 2

④ As shown in Fig.3, gently push the lower side of the case and open its cover. Keep the face plate in the case. Then, you can bring the plate safely.

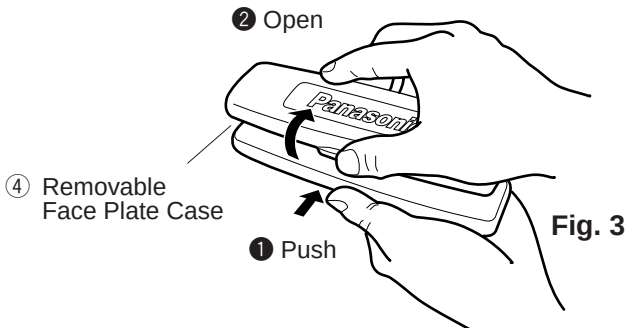


Fig. 3

To install the Removable Face Plate

① Fit either the edge of the right or left hole in the face plate over the main unit's pins.
② Fit it over on the other side while pushing it.

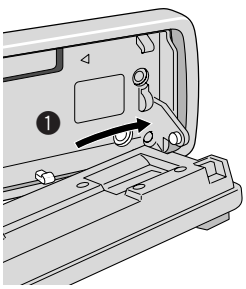
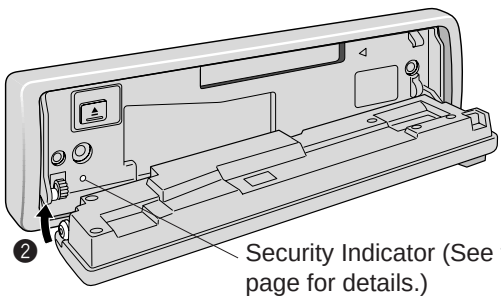


Fig. 4



Anti-Theft System (continued)

③ After fitting the face plate holes, try moving the face plate up and down a few times to make sure that it has been fitted securely. Close the front panel and press the right side of the face plate until a “click” is heard.

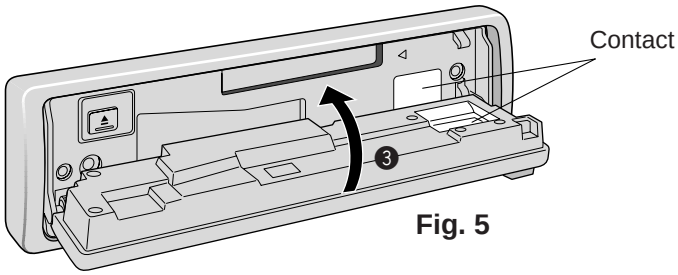


Fig. 5

Cautions:
1. Before removing the face plate, make sure the power is off.
2. This face plate is not water-proof. Do not expose it to water or excessive moisture.
3. Do not remove the face plate while driving your car.
4. Do not place the face plate on the dashboard or nearby areas where the temperature rises to high levels.
5. Do not touch the contacts on the face plate or on the main unit, since this may result in poor electrical contacts.
6. If dirt or other foreign substances get on the contacts, wipe them off with clean and dry cloth.
7. Do not apply a strong downward force onto the face plate and do not put anything on it while it is open, or it might be damaged.

Security Indicator

The security indicator blinks when the removable face plate is removed from the unit. (See Fig.4 on the previous page.)

Activate Security Indicator

1. ① Press and hold **[SEL]** for more than 2 seconds to change to the display control mode when the power is on.
   ② Press **[SEL]** during the display control mode to change to the security indicator mode. (See page 14.)
   ③ Press **[∧TUNE]** or **[∨TUNE]** to turn the security indicator on or off. (LED ON or OFF)
   (**Default**: The security indicator is on.)

Note: “LED ON” appears on the display when the security indicator is on.

2. To check whether the unit is set in the LED on mode, make sure that the security indicator blinks when the removable face plate is removed.

Display	Security Indicator	Panel Removal Alarm
LED ON	Blinks	ON
↑ ↓	(Press **[∧TUNE]** or **[∨TUNE]**.)	
LED OFF	OFF	OFF

Note: In the display control mode, the display will be back to the previous mode with no operation for more than 5 seconds.

Panel Removal Alarm

This alarm sounds to warn you not to forget to remove the panel before leaving your car. This function is activated when the security indicator is on.

Installation

Preparation

- Before installation, check the radio operation with antenna and speakers.
- Disconnect the cable from the negative (–) battery terminal.(See caution below).
- Unit should be installed in a horizontal position with the front end up at a convenient angle, but not more than 30°.

Caution: For installation to cars with trip or navigational computers, all electronic memory settings previously registered in the computer will be lost when the battery terminal is disconnected. For this type of car, battery could not be disconnected. Therefore, extra care should be taken to prevent short circuiting.

In-dash Installation

Installation Opening
In-dash installation can be done if the car's dashboard has an opening for this unit as shown in Fig. 6. The car's dashboard should have a thickness of 4.5 mm - 6 mm in order to make the installation of the unit.

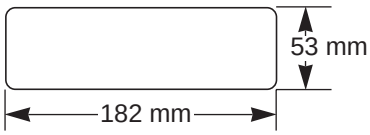


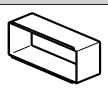
Fig. 6

Installation Precautions

This product, if possible, should be installed by a professional installer.
In case of difficulty, please consult your nearest authorized Panasonic Service Center.

1. This system is to be used only in a 12-volt, DC battery system (car) with negative ground.
2. Follow the electrical connections on pages 38 to 39 carefully. Failure to do so may result in damage to the unit.
3. Connect the power lead (red) after all other connections are made.
4. Be sure to connect the battery lead (yellow) to the positive terminal (+) of the battery or fuse block (BAT) terminal.
5. Insulate all exposed wires to prevent short circuiting.
6. Secure all loose wires after installing the unit.
7. Please carefully read the operating and installation instructions of the respective product before connecting it to this unit.

Supplied Hardware

No.	Item	Diagram	Q'ty
①	Mounting Collar		1
②	Mounting Bolt (5 mmø)		1
③	Power Connector		1
④	Removable Face Plate Case		1

No.	Item	Diagram	Q'ty
⑤	Remote Control Unit		1
⑥	Trim Plate		1
⑦	Lithium Battery(CR2025)		1
⑧	ISO Antenna Adaptor		1

Installation (continued)

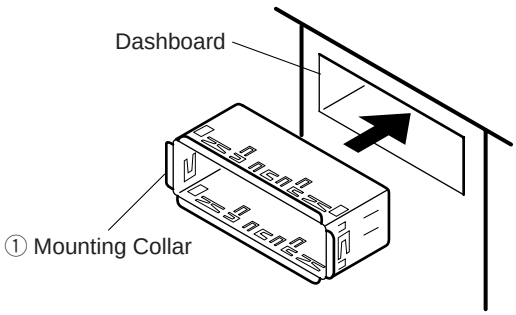
- When bending the mounting tab of the mounting collar with a screwdriver, be careful not to injure your hands and fingers.
- We strongly recommend you to wear gloves for installation work to protect yourself from injuries.

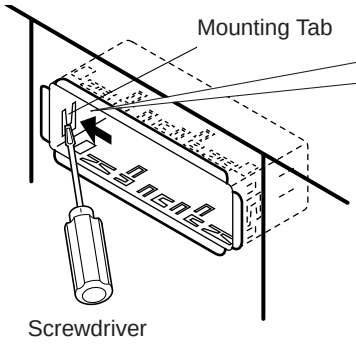
Installation Procedures

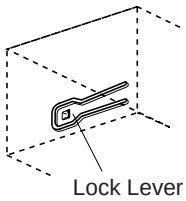
Note: Disconnect the cable from the negative (–) battery terminal.

1. Secure the Mounting Collar ①.

Insert Mounting Collar ① into the dashboard, and bend the mounting tabs out with a screwdriver.



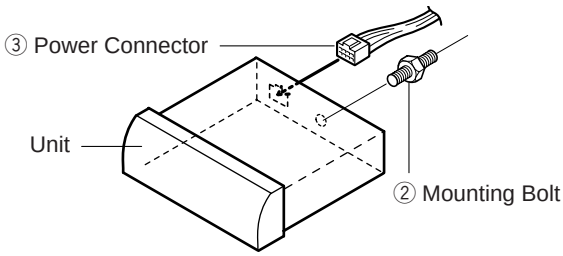


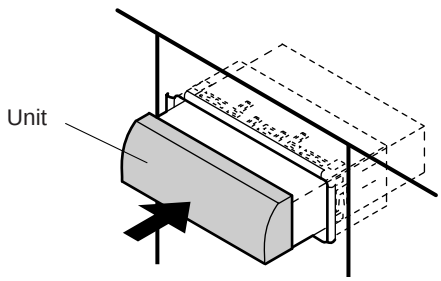


Make sure that the lock lever is flush with the mounting collar (not projecting outward).

2. Secure the rear of the unit.

a) Check the electrical connections by referring to this operating instructions.
b) Connect Mounting Bolt ②, using a suitable wrench.
c) Insert Power Connector ③ to the unit.
d) Insert the unit into Mounting Collar ① and push it in until a “click” is heard.

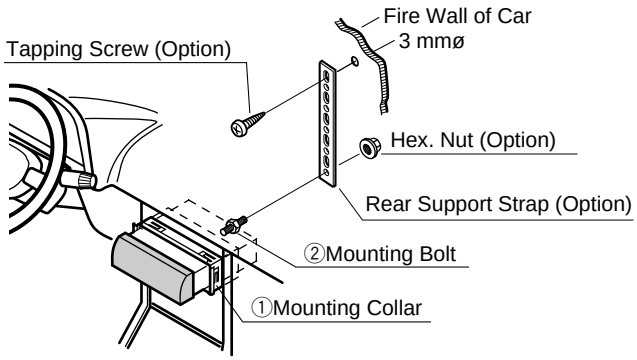




e) Secure the rear of the unit to the car by either of the two recommended methods.

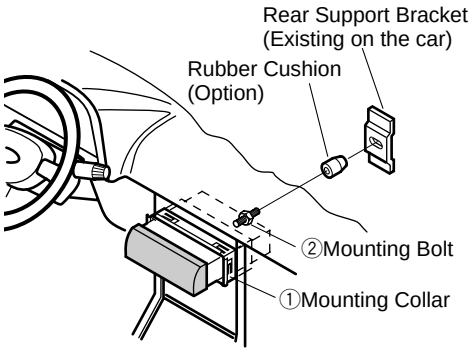
- **Using the Rear Support Strap (Option)**

  Affix one end of the Rear Support Strap to the rear of the unit, and the other end to the fire wall of car, or some other metallic area.

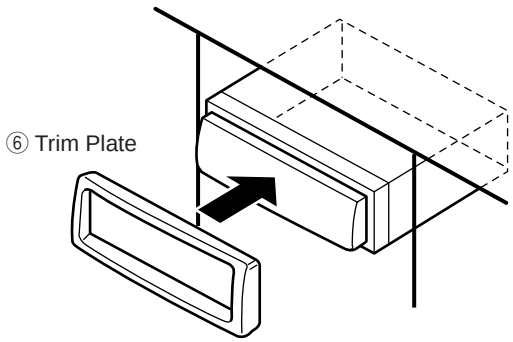


● **Using the Rubber Cushion (Option)**

(If there is an existing Rear Support Bracket on the fire wall of car.)
Cover Mounting Bolt ② on the rear of the unit with Rubber Cushion, and mount it into the existing Rear Support Bracket.



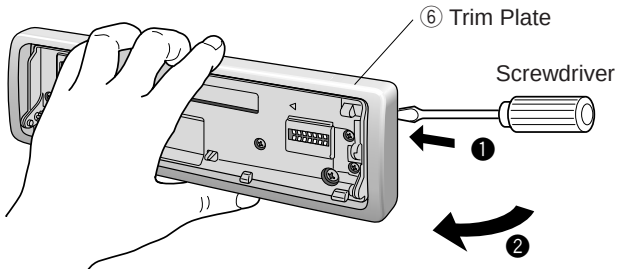
3. Insert Trim Plate ⑥.



4. After installation reconnect the negative (|) battery terminal.

To Remove the Unit

a) Remove the removable face plate. (See page 33.)
b) Remove Trim Plate ⑥ with a screwdriver as shown in the figure.



c) Pull out the unit while pushing the lock lever using screwdriver. (Fig. 7, Fig. 8)
d) Remove the unit pulling with both hands. (Fig. 9)

Fig. 7

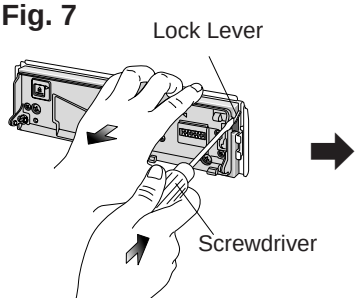


Fig. 8

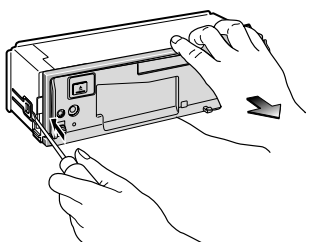
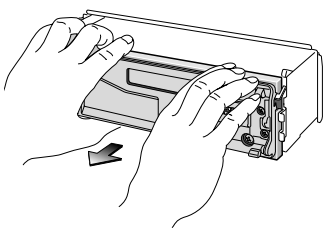


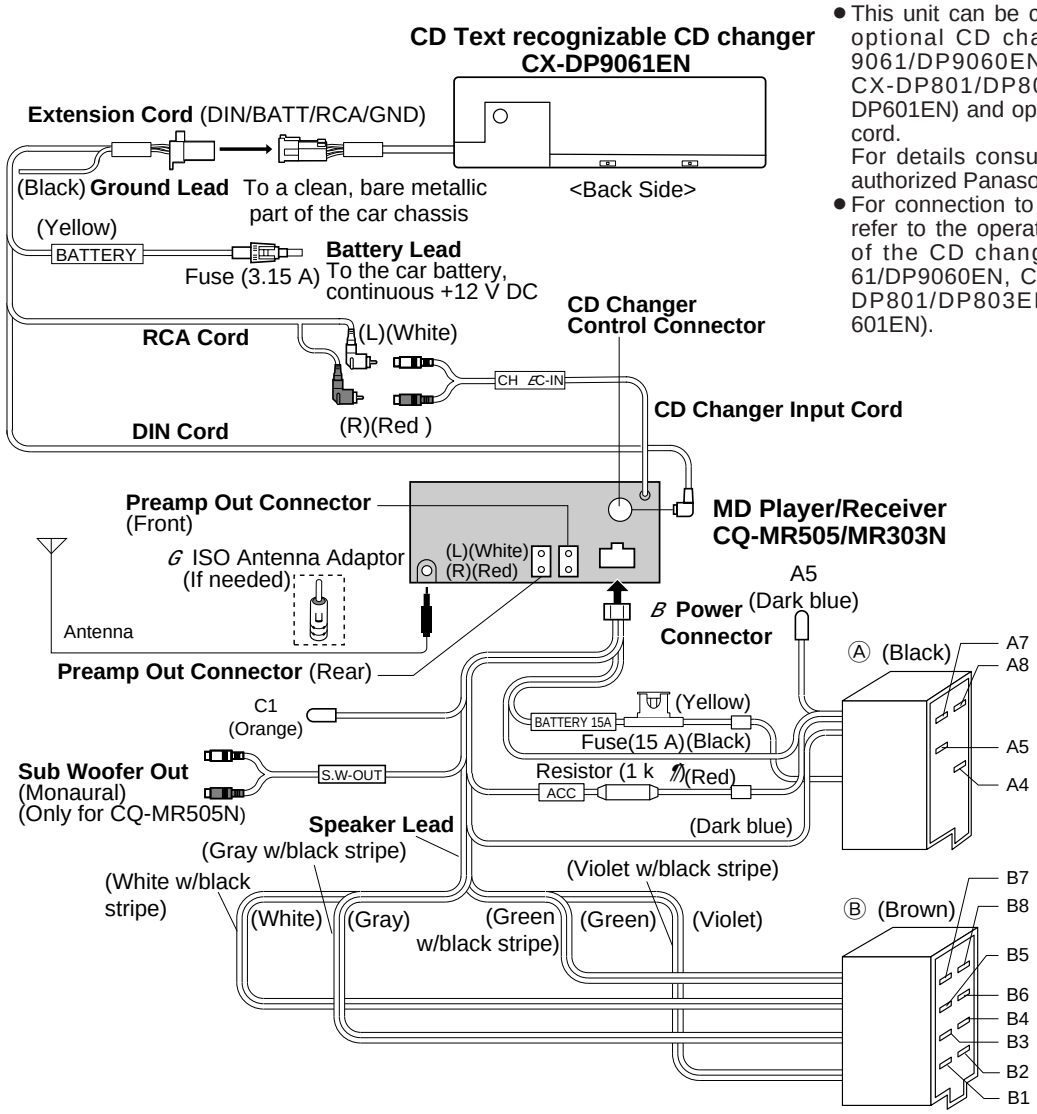
Fig. 9



Electrical Connection

Cautions:

- **Confirm the note on page 4, and make connections to the connectors on car side.**
- This unit is designed to be used in a car having 12-volt negative ground battery system.
- To prevent damage to the unit, be sure to follow the connection diagram below.
- Remove the covering of the leads about 5 mm long from their end before connecting. (except for ISO connector's cords)
- Do not insert the power connector into the unit until the wiring is completed.
- Be sure to insulate any exposed wires from a possible short-circuit from the car chassis. Bundle all cables and keep cable terminals free from touching any metal parts.



- This unit can be connected to an optional CD changer (CX-DP 9061/DP9060EN, CX-DP88N, CX-DP801/DP803EN or CX-DP601EN) and optional extension cord.
  For details consult your nearest authorized Panasonic Dealer.
- For connection to a CD changer, refer to the operating instructions of the CD changer (CX-DP90 61/DP9060EN, CX-DP88N, CX-DP801/DP803EN or CX-DP 601EN).

(See the next page about A1-A8, B1-B8 and C1.)

Loudspeakers (connector Ⓑ : B1 - B8)

	Left +	Left –	Right +	Right –
Front	B5 (White)	B6 (White w/black stripe)	B3 (Gray)	B4 (Gray w/black stripe)
Rear	B7 (Green)	B8 (Green w/black stripe)	B1 (Violet)	B2 (Violet w/black stripe)

A4

Battery Lead (Yellow)
To the car battery, continuous +12 V DC

A5

Motor Antenna Relay Control Lead (Dark blue) (To Motor Antenna) (Max. 500mA)
This lead is not intended for use with switch actuated power antenna.
Amp. Relay Control Power Lead (Dark blue)
This lead is for connection to Panasonic power amplifier.

A7

Power Lead (ACC or IGN) (Red)
To ACC power, +12 V DC

A8

Ground Lead (Black)
To a clean, bare metallic part of the car chassis

C1

Telephone Mute Lead (Orange)
Connect to the car telephone mute lead.
Note: This telephone mute lead is for connection only to the radio mute lead. Be sure to ascertain this because it will not work with other type of output system.
Navi Mute Lead (Orange)
Connect to the Navi Mute lead of the Panasonic car navigation system (for example, CN-DV2000EN).

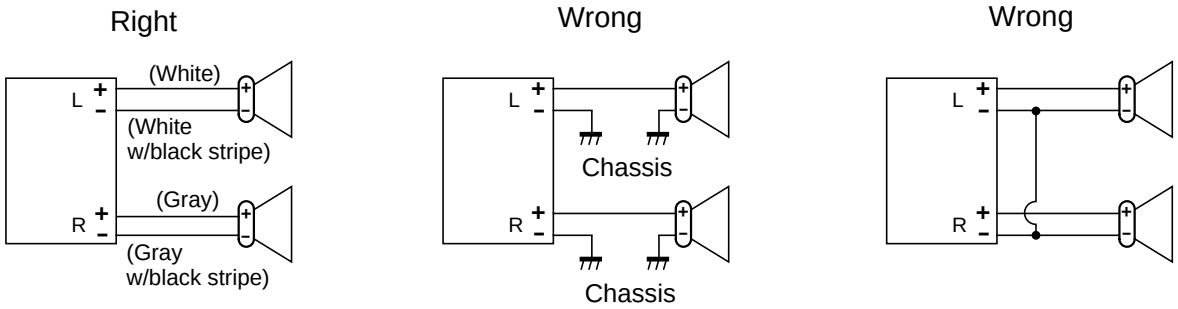
Notes:
Telephone Mute
The sound from the speakers cannot be heard while the telephone conversation is in progress.
Navi Mute
The sound from the speakers cannot be heard while the navigation voice guide is on.

Speaker Connections

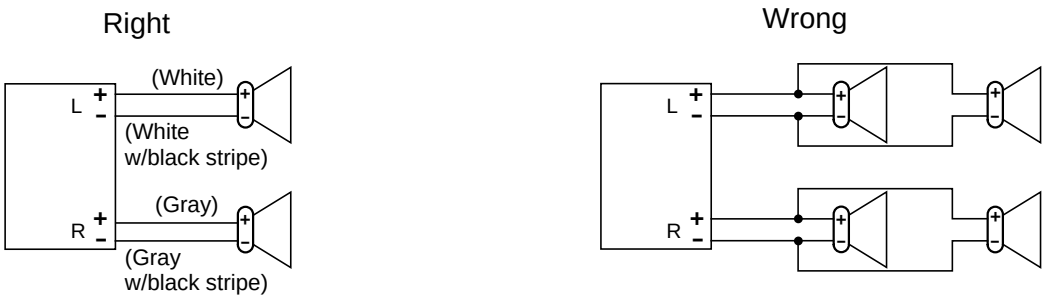
Cautions:

1. Use ungrounded speakers only.
2. The speakers to be used with this unit should be able to handle more than 45W(CQ-MR505N), 40W(CQ-MR303N) of audio power. If an optional amplifier is used, the speakers should be able to handle the maximum output power of the amplifier. Use of speakers with small input ratings can cause damage to the speakers.
3. The speaker impedance should be 4 - 8 Ω. If the impedance is too large or too small, it affects the output and may cause damage to the speakers or this unit.
4. Do not use 3-wire type speaker system having a common earth lead. Never connect the speaker cord to the body of the car. This unit uses the BTCL circuit, so each speaker should be connected separately using parallel vinyl insulated cords.
5. The speaker cords and the power amplifier unit should be kept away (about 30cm apart) from the antenna and antenna extension cord.
6. Follow the connection diagram below carefully. Failure to do so may cause damage to both unit and speakers.

- **Unit will be damaged if speakers (Front, Rear) are not connected properly.**



- **Do not connect more than one speaker to one set of speaker leads.**

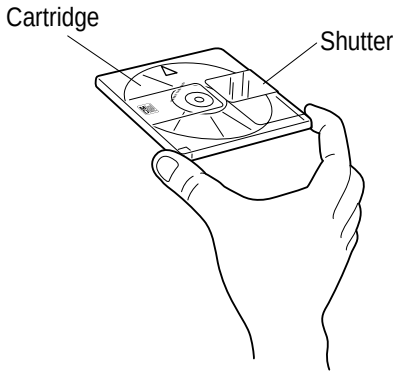


Notes on Mini Discs (MD)

■ How to Handle MDs

An MD is held in a cartridge to protect the MD from foreign matter and fingerprints. Great care must be taken in dealing with an MD in consideration of the following because a dirty or deformed cartridge can cause malfunction or sound quality deterioration.

- Never open the shutter of an MD cartridge to avoid damaging to the cartridge.
- Never insert an MD cartridge if a label on it is about to come off. Otherwise, the label might be stuck in the unit and cause a trouble.
- Data MD is not available for the unit. Make sure to use music MDs.



■ How to Store MDs

- If you do not play an MD for a long time, remove the MD from the unit and keep it in an exclusive case to protect it from dust, scratch, curvature or other damage.
- Avoid leaving MDs at any of the following places.

1. A place exposed to direct sunlight for a long time
2. A humid or dusty place
3. A place exposed to direct heat from heaters.
4. Seats or dashboard in a car

■ How to clean MDs

If an MD cartridge became dirty, use dry cloth to wipe a stain off.
Even when cleaning, never open the shutter.

Fuse

Use fuses of the same specified rating (15 A). Using different substitutes or fuses with higher ratings, or connecting the unit directly without a fuse, could cause fire or damage to the unit.
If the replacement fuse fails, contact your nearest authorized Panasonic Service Center.

Maintenance

Your product is designed and manufactured to ensure the minimum of maintenance. Use a soft cloth for routine exterior cleaning. Never use benzine, thinner, or other solvents.

E-8496Ab
CJ642
1
2
3
4
GND
EJECT
EJ. ILL
ILL
SW610
YEAS09267
D643
LNJ306G5TUWQ
To Main P.C.B.
E-6788Ba CN604
E-8496Aa
CJ640
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
P.GND
ILL
VDD. 5V
FP. OPEN
P. LED
RM
N. C
LCD. CE
LCD. CLK
LCD.DO
8V
LCD.DI
INV. GND
INV. 10V
INV. GND
D641
LNJ306G5TUWQ
To Main P.C.B.
E-6788Ba CN601
CP641
14
13
12
11
10
9
8
VDD.5V
FP.OPEN
P.LED
RM
N.C
8V
INV.10V
1
2
3
4
5
6
7
P.GND
LCD.DI
LCD.CLK
LCD.DO
LCD.CE
INV.GND
INV.GND

E-8801A

IC905
YEAMSBX8035F
IC905
IR
RECEIVER
VCC GND OUT
5.0 0 5.0
C911 0.1
C910 0.001
5V
R907 1K
D930 MA8047MTX
R938 4.7
D900 LN1271RAL
R906 1K
10V
TO E-8496Aa CP641
CN901
VDD.5V FP.OPEN P.LED AM.DATA P.GND ILL.8V INV.10V
P.GND LCD.DI LCD.CLK LCD.DO LCD.CE INV.GND INV.GND
R941 10K
D928 MA8056LMHTX R909 1K CE
D926 MA8056LMHTX R911 1K DO
D929 MA8056LMHTX R908 1K CLK
D927 MA8056LMHTX R910 1K DI

SW905 YEAS09312 AF REG
SW904 YEAS09312 PTY MONO/LOC
SW903 YEAS09312 M1 DISC∨
SW902 YEAS09312 SEL
SW901 YEAS09312 VOL∨
SW910 YEAS09312 TA
SW909 YEAS09312 HDB S.HDB
SW908 YEAS09312 M2 DISC∧
SW907 YEAS09312 TUNE∨ TRACK◀◀
SW906 YEAS09312 VOL∧
SW914 YEAS09312 M6 REP
SW913 YEAS09312 M3
SW912 YEAS09312 DISP/CT
SW911 YEAS09312 TUNE∧ TRACK▶▶
SW918 YEAS09312 M5 SCAN
SW917 YEAS09312 M4 R▶ RANDOM
SW916 YEAS09312 SOURCE PWR
SW915 YEAS09312 BAND AUTO.P

R965 10K R964 10K R963 10K R962 10K R961 10K
C914 0.1 C915 0.1

IC901
LCD
DRIVER
KS5 KS4 KS3 KS2/S55 KS1/S54 COM.4 COM.3 COM.2 COM.1 S53 S52 S51 S50 S49 S48 S47 S46 S45 S44 S43
KS6 KI1 KI2 KI3 KI4 KI5 VDD VLCD VLCD1 VLCD2 VSS TEST OSC RESET DO CE CLK DI P1/S1 P2/S2 P3/S3 P4/S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30 S31 S32 S33 S34 S35 S36 S37 S38 S39 S40 S41 S42
C920 0.1
C921 0.1
C923 680P
R942 43K
IC901
YEAMLC75884W
2V/DIV·2mS/DIV
2V/DIV·5mS/DIV
2V/DIV·2mS/DIV

L901
ETJ11K92AM
C934 12P
R1
W1
CFL931
A2CA00000018
L902 YELTD75F101T
R930 2.2K
Q902 YEANSSTA06T
C905 0.022
C907 16V100
C906 0.1
R931 2.2K
Q903 YEANSSTA06T
6.5

LCD901 L5ACCLC00016
COM.1 S1 S2 S3 S4 S5 S6 COM.2 COM.3 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30 S31 S32 S33 S34 S35 S36 S37 S38 S39 S40 S41 S42
COM.4 COM.1 COM.2 COM.3 COM.4 S43 S44 S45 S46 S47 S48 S49 S50 S51 S52 S53 S54 S55 COM.1 COM.2 COM.3 COM.4

E-8496Ab
CJ642
SW610 YEAS09267
D643 LNJ306G5TUWQ
1 GND
2 EJECT
3 EJ.ILL
4 ILL
TO E-6788Ba CN604

E-8496Aa
CJ640
D641 LNJ306G5TUWQ
1 P.GND
2 ILL
3 VDD.5V
4 FP.OPEN
5 P.LED
6 AM
7 N.C
8 LCD.CE
9 LCD.CLK
10 LCD.DO
11 8V
12 LCD.DI
13 INV.GND
14 INV.10V
15 INV.GND
TO E-8801A CN901
TO E-6788Ba CN601

The following symbols are shown on the schematic diagram.

◁10V	10V
◁5V	5V

E-8802A

IC902
YEAMSBX8035F
IC902
IR
RECEIVER
VCC GND OUT
5.0 0 5.0
C901 0.1
C902 1000P
5V
D909 LN1271RAL
R909 1K
R907 1K
D905 MA8056LMHTX
R905 4.7
R906 470
C906 0.33
D907 MA3X028TAL
D906 YEADRD43M2T2
8V
10V
C911 0.1
R911 4.7K
R912 4.7K
R914 4.7K
R915 4.7K
IC901
LCD
DRIVER
COM.0 COM.1 COM.2 COM.3 COM.4 COM.5 COM.6 COM.7
S60 S59 S58 S57 S56 S55 S54 S53 S52 S51
2V/DIV·5mS/DIV
2V/DIV·2mS/DIV
LED1 LED2 LED3 LED4
VSS VLC5 VLC4 VLC3 VLC2 VLC1 VLCD VDD
SYNC LCD OFF RESET KET REQ SCK DATA STB
OSC IN OSC OUT
KEY1 KEY2 KEY3 KEY4
SEG650 SEG649 SEG648 SEG647 SEG646 SEG645 SEG644 SEG643 SEG642 SEG641 SEG640 SEG639 SEG638 SEG637 SEG636 SEG635 SEG634 SEG633 SEG632 SEG631 SEG630 SEG629 SEG628 SEG627 SEG626
S50 S49 S48 S47 S46 S45 S44 S43 S42 S41 S40 S39 S38 S37 S36 S35 S34 S33 S32 S31 S30 S29 S28 S27 S26
SEG1 SEG2 SEG3 SEG4 SEG5 SEG6 SEG7 SEG8 SEG9 SEG10 SEG11 SEG12 SEG13 SEG14 SEG15 SEG16 SEG17 SEG18 SEG19 SEG20 SEG21 SEG22 SEG23 SEG24 SEG25
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25
IC901
YEAMPD32B015
R917 100K
R918 100K
R919 56K
R920 220K
R921 6.8K
R922 6.8K
R923 6.8K
R924 6.8K
C921 470P
C922 470P
C923 470P
C924 470P
REQ
CLK
DATA
STB
KEY1
KEY2
KEY3
KEY4
S1/KS1
S2/KS2
S3/KS3
S4/KS4
S5/KS5
TO
E-8496Aa
CP641
CN901
VDD.5V FP.OPEN P.LED RM.DATA P.GND ILL.BV INV.10V
P.GND DATA CLK STB REQ INV.GND INV.GND
D901 MA8056LMHTX
D902 MA8056LMHTX
D903 MA8056LMHTX
D904 MA8056LMHTX
R901 1K REQ
R902 1K STB
R903 1K CLK
R904 1K DATA
R908 1.0K
SW905 YEAS09312 AF REG
SW904 K0H1BA000285 PTY MONO/LOC
SW903 K0H1BA000285 M1 DISC ∨
SW902 YEAS09312 SEL
SW901 YEAS09312 VOL ∨
SW911 YEAS09312 TA
SW910 K0H1BA000285 HDB S.HDB
SW908 K0H1BA000285 M2 DISC ∧
SW907 YEAS09312 TUNE ∨ TRACK ◀◀
SW906 YEAS09312 VOL ∧
SW915 K0H1BA000285 M6 REP
SW914 K0H1BA000285 M3
SW913 K0H1BA000285 DISP/CT
SW912 YEAS09312 TUNE ∧ TRACK ▶▶
SW919 K0H1BA000285 M5 SCAN
SW918 K0H1BA000285 M4 RANDOM
SW917 YEAS09312 SOURCE PWR
SW916 YEAS09312 BAND AUTO.P
D915 MA729TX S5/KS5
D914 MA729TX S4/KS4
D913 MA729TX S3/KS3
D912 MA729TX S2/KS2
D911 MA729TX S1/KS1
L932 ETJ11K92AM
C934 12P
R1
W1
L931 YELTD75F101T
R931 2.2K
Q931 YEANSSTA06T
C933 0.022
R932 2.2K
Q932 YEANSSTA06T
C931 16V100
C932 0.1
CFL931 A2CA0000019
LCD901 L5ADBLC00001
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30 S31 S32 S33 S34 S35 S36 S37 S38 S39 S40 S41 S42 S43 S44 S45
S60 S59 S58 S57 S56 S55 S54 S53 S52 S51 S50 S49 S48 S47 S46 COM.7 COM.6 COM.5 COM.4 COM.3 COM.2 COM.1 COM.0

E-8496Ab
CJ642
SW610 YEAS09267
D643 LNJ306G5TUWQ
GND EJECT EJ.ILL ILL
TO
E-6788Ba
CN604

E-8496Aa
CJ640
D641 LNJ306G5TUWQ
P.GND ILL VDD.5V FP.OPEN P.LED RM N.C LCD.CE LCD.CLK LCD.DO BV LCD.DI INV.GND INV.10V INV.GND
TO E-8802A CN901
CP641
VDD.5V FP.OPEN P.LED RM P.GND BV INV.10V
P.GND LCD.DI LCD.CLK LCD.DO LCD.CE INV.GND INV.GND
TO E-6788Ba CN601

The following symbols are shown on the schematic diagram.

10V	10V
8V	8V
5V	5V

E-8886

TO Pick-up Ass'y·Spindle Motor

CN101

IC101 RF AMP

IC101 ANB774FHQ

IC401 DSP

IC401 MN66619REUC

XL401 YEXLSTCV169T

L403 YELTBLM1B601

L402 YELTBLM1B601

L401 YELTBLM1B601

Q101 2SB766ATX

IC501 MD CONTROL

IC501 MN101C28LAB

Q902 B1GDCFJN0011

Q901 B1ADND000004

IC901 C0GBY0000007

IC901 FOCUS/TRACKING DRIVE· LOADING/ SPINDLE/ TRAVERSE MOTOR DRIVE

L501 EXCCET103U

XL501 YEXLSTCC7377

IC201 C0ABB0000038

IC201 AMP

L201 YELTBLM1B601

L202 YELTBLM1B601

CN1

TO E-6788Ba CN621

YEFD31131

The following symbols are shown on the schematic diagram.

8V	8V
5V	5V
3.3V	3.3V
MD (L.R)	

E-6788Ba

PA51
FM/AM/RDS
TUNER PACK

IC201
ELECTRONIC
VOLUME

IC203
FILTER

IC204
AF SW

IC261
FILTER

IC262
AF AMP

IC241
POWER AMP

CH C-IN

FRONT

REAR

E-6788Bc

IC650
BUFFER

IC600
CPU

IC602
3.3V
REG

IC704
10V REG

IC702
5V/8V
REG

IC802
FILTER

IC601
BATT/ACC
RESET
DETECT

TO
E-8886
CN1

TO
E-8496Ad
CJ642

TO
E-8496Aa
CJ640

*	R602	R603
CQ-MR505NDK	OPEN	47K
CR-MR303NDK	47K	OPEN

The following symbols are
shown on the schematic diagram.

+B		3.3V		
ACC		RADIO	(L.R)	
10V		CD	(L.R)	
8V		MD	(L.R)	
5V		AUDIO	(L.R)	

* Inside of frames( ) are only for CQ-MR505N

CQ-MR505N/CQ-MR303N